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THIRD ANNUAL
SAFETY CONGRESS
OF THE
NATIONAL SAFETY COUNCIL
HOTEL LA SALLE, CHICAGO
October 13th to 15th, 1914

FOREWORD

In submitting this volume of Proceedings to Members of the National Safety Council, and others, its Officers and Executive Committeemen do so in the hope that the information presented may prove of practical interest and value in furthering the cause of the Accident Prevention Movement, and in throwing light upon everyday aspects of the work.

Opportunity has been taken to incorporate a brief topical index which may prove of service in locating specific subjects dealt with. As regards the "Round Table" Sessions, this index has not been compiled with any degree of minuteness, as the report of these Sessions is virtually a series of running notes on interdependent topics; and it is earnestly desired that all of those into whose hands this volume may fall will carefully digest and profit by the points brought forward at such Sessions—forming, as they do, an authoritative consensus of expert opinion.

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TABLE OF CONTENTS

	Pages
ANNUAL MEETING OF MEMBERS.....	7-72
President's Address	7-15
Report of Officers and Committees.....	15-41
Reports of Local Councils.....	49-70
GOVERNMENTAL SESSION	73-109
Chairman, Mr. Royal Meeker, Commissioner of Labor Statistics, U. S. Department of Labor, Washington, D. C.	
"Co-operation for Safety by Government and Industries".....	79-86
Mr. H. M. Wilson, Engineer-in-Charge Bureau of Mines, Pitts- burgh, Pa.	
"Safety First in Europe".....	86-99
Dr. John Price Jackson, Commissioner of Labor and Industry, Harrisburg, Pa.	
"Effective Co-operation Between Governmental Agencies".....	100-108
Mr. Barney Cohen, Assistant Chief, Department of Factory In- spection, State of Illinois, Chicago, Ill.	
ECONOMICS SESSION	110-145
Chairman, Mr. C. B. Connelly, Dean, Carnegie Institute of Tech- nology, Pittsburgh, Pa.	
"Safety as a Part of the Education of an Engineer".....	110-119
Dean C. B. Connelly.	
"Effects of Safety on the Community".....	119-125
Miss Ida M. Tarbell, New York, N. Y.	
Discussion	126-128
Mr. J. B. Douglas, Manager Claim Department, United Gas Im- provement Co., Philadelphia, Pa.	
"Efficiency in Safety Work".....	129-134
Mr. Dudley R. Kennedy, Special Agent, Youngstown Sheet & Tube Co., Youngstown, Ohio.	
Discussion	134-137
Mr. George T. Fonda, Engineer of Safety and Welfare, Bethlehem Steel Co., South Bethlehem, Pa.	
"Practical Results Obtained in Safety".....	137-142
Mr. H. W. Forster, Chief Engineer, Independence Inspection Bureau, Philadelphia, Pa.	
Discussion	142-145
Mr. John P. Gardiner, Assistant Commissioner of Labor, State of Minnesota, St. Paul, Minn.	
INDUSTRIAL HYGIENE SESSION.....	161-202
Chairman, Dr. W. A. Evans, Ex-Health Commissioner, Chicago, Ill.	
"Some of the Hygienic Measures Taken During the Construction of the Panama Canal".....	161-164
Dr. W. A. Evans.	
"Present Status of the Protection of the Worker in the Lead Industry in the United States".....	165-167
Dr. Francis D. Patterson, Director, Department of Sanitation and Accident Prevention, Harrison Bros. & Co., Inc., Philadelphia, Pa.	
Discussion	167-171
Dr. Alice Hamilton, Chicago, Ill.	
"Physical Examination of Workers".....	172-179
Dr. J. W. Schereschewsky, U. S. Public Health Service, Washing- ton, D. C.	
Discussion	179-184
Dr. G. M. Price, New York City.	
Dr. Theodore B. Sachs, Chicago, Ill.	
Dr. A. M. Harvey, Chicago, Ill.	

Table of Contents

	Pages
"Industrial Sanitary Standards"	195-197
Dr. G. M. Price, Director, Joint Board Sanitary Control, New York City.	
"Relation of Industrial Sanitation to Public Health"	200-202
Dr. George B. Young, Health Commissioner, Chicago, Ill.	
TRANSPORTATION AND PUBLIC SERVICE SESSION	234-266
Chairman, Mr. Martin J. Insull, Vice-President Middle West Utilities Co., Chicago, Ill.	
"Safety as a Means of Bettering the Relations Between the Public and Public Service Corporations"	234-239
Mr. Martin J. Insull.	
"Safety Problem of the Railroads"	239-246
Mr. W. B. Spaulding, Chairman, Central Safety Committee, St. Louis & San Francisco Railroad, St. Louis, Mo.	
Discussion	246-256
Mr. R. H. Newbern.	
Mr. M. A. Dow.	
"Safety Problem in the Highways of the Municipality"	256-264
Mr. William P. Eno, Washington, D. C.	
Discussion	264-266
Mr. William A. Searle.	
MANUFACTURER'S SESSION	267-296
Chairman, Mr. Melville W. Mix, President Dodge Mfg. Co., Mishawaka, Ind.	
"Safety as an Asset to Manufacturers"	267-276
Mr. Melville W. Mix.	
"Co-operation in Safety Work Among Manufacturers and Trade Associations"	276-281
Mr. Ferd. C. Schwedtman, Chairman, Committee for Accident Prevention and Workmen's Compensation, National Association of Manufacturers, Springfield, Ill.	
Discussion	282-289
Mr. M. W. Alexander.	
Mr. J. C. Parker.	
"Effective Co-operation Between Employer and Employee"	289-293
Mr. J. A. Robertson, Manager, Camera Works, Eastman Kodak Co., Rochester, N. Y.	
Discussion	293-296
Mr. L. B. Robertson.	
"ROUND TABLE" SESSIONS	146-233
Chairman, Mr. L. R. Palmer, Chief Inspector, Department of Labor and Industry, Harrisburg, Pa.	
First "Round Table" Session	146-160
Second "Round Table" Session	203-233
MISCELLANEOUS DIVISION—BANQUET SPEECHES	297-328
President's Remarks	297-300
Toastmaster, Mr. William Duff Haynie	301-303
"Service"	303-305
Mr. W. H. Merrill, General Manager of the Underwriters' Laboratories.	
"Boy Scout Movement"	306-312
Mr. E. A. Halsey, Illinois State Commissioner of the Boy Scouts of America.	
"Insurance Companies and Accident Prevention"	313-318
Mr. David Van Schaack, Director Bureau of Inspection and Accident Prevention, Aetna Life Insurance Co., Hartford, Conn.	
"Fellowship, the Basis of All Safety"	319-327
Mr. Clarence H. Howard, President Commonwealth Steel Co., St. Louis, Mo.	

PROCEEDINGS
of the
NATIONAL SAFETY COUNCIL
THIRD ANNUAL SAFETY CONGRESS
Held at Hotel La Salle, Chicago, Illinois

ANNUAL MEETING OF MEMBERS

Tuesday, October 13, 1914, 10 a. m.

PRESIDING OFFICER, Mr. R. W. Campbell, President of the National Safety Council.

The meeting having been opened by prayer delivered by the Reverend William J. Taylor, M. A., of the Oak Park Unitarian Church, Chicago, the President, after briefly touching upon a number of matters relative to the Safety Exhibits, the facilities of entertainment provided for those attending the Congress, etc., made the following address:

PRESIDENT'S ADDRESS.

Ladies and Gentlemen, members, representatives of members and guests of the National Council for Industrial Safety, on behalf of the Executive Committee, Chicago Local Council No. 3, its Committee on Arrangements and other committees in charge of this, the Third Annual Safety Congress, I give you greeting.

I trust you will have as much pleasure, satisfaction and benefit from this Congress as those in charge of it have enjoyed in arranging for it. In speaking to you this morning, I would have you understand that I do so, not in my personal capacity, but as the spokesman of your Executive Committee and in a sense of you all, for to all of us should fall the blame, if any cause there be for blame, and to all of us should any measure of credit that may be due, be given, for without doubt the effort so far put forth and that planned for the future by the National Council for Industrial Safety has been and will be to the highest degree co-operative.

Your Executive Committee feel very strongly that this is the case, and on that account, if for no other, we invite your criticisms and suggestions to the end that the fewest mistakes possible may be made and the largest measure of constructive work may be performed by this organization, and it is for this purpose that I will shortly ask your attention to a brief resumé of the lessons learned and work done during the past year, as well as to an outline of a suggested future policy.

It will be remembered that the National Council has been the out-growth of an apparent need for some agency under which could be co-ordinated the Accident Prevention work going on in this country and the question to be answered today is—Are we meeting the requirements of the situation?

Headquarters were established just one year ago today in the city of Chicago and active operations commenced.

The form of organization of the National Council for Industrial Safety as provided for in our Constitution and By-Laws has proven adequate. A few minor changes may be necessary and will be suggested to you and to the Board of Directors by the Resolutions Committee at the proper time. It may be that ultimately a change in the amount of dues and in the matter of rebates to Local Councils will be necessary, but these are not suggested at this time.

Membership and finances were naturally the first problems. At the conclusion of the Second Safety Congress, in New York, there were approximately forty members enrolled, and \$1,400.00 in the treasury, being contributions which had been solicited and obtained by the pre-organization finance committee. Further contributions were solicited and an active and energetic campaign for members was begun. Today there are enrolled 829 members, with 2,769 representatives. These memberships have been secured in numerous ways, some through the activity of Local Councils and individual members, and a large proportion through circularization and personal solicitation on the part of the Secretary of the Council.

The strength of our organization depends in many ways upon the number of its members. A co-operative work is always the stronger and more effective as the number of its units increases. Your Executive Committee have felt very keenly the importance of the membership problem and have authorized and approved the ex-

penditure of energy and money in an energetic campaign for members. This missionary work was necessary and will have to be continued not only for financial reasons, but also in the wider fulfillment of the object and purpose of the Council in promoting Universal Safety. It is exceedingly important that the Movement be extended, and that a larger number be brought within the sphere of influence. This is especially true of the smaller industrial concerns and it is our hope that during the coming year a special effort may be made to interest them.

The expenses of the first year have naturally been heavy. We have endeavored to be economical. Your Finance Committee will make its report at the proper time and it will be then time for you to judge as to the wisdom of our policy.

In judging the work of your Council, it should be borne in mind that our problem involves not only industrial but also public and Home Safety and that in each one of these there are the three elements of safeguarding, education and organization to be considered.

On commencing our work, one of the first lessons learned was that we could not hope to succeed if we but sat still, accumulated information in our bureau and awaited calls for advice. Our members and prospective members required that they be "shown," and it became apparent that only by service and progressive constructive action could we accomplish the object of our organization.

Our Secretary's report to you under date of August 14th, 1914, outlines in some detail many of the steps that have been taken and includes a description of:

- The establishment of a Bureau of Information;
- Our weekly distribution service;
- The furnishing of extra copies of bulletins;
- The giving of special information for individual members;
- The supplying of speakers in many different communities;
- The furnishing of moving picture reels and stereopticon slides;
- The performance in a measure of the functions of an Employment Bureau of Safety Engineering positions;
- The promoting of the formation of Local Councils, of which there are now seventeen, Reading and Boston having been organized since the Secretary's Report;

Assisting Local Councils in their work by way of keeping all advised as to what the others were doing and offering suggestions for public and home Safety campaigns; which come to the notice of the General Officers through its press clipping service; publicity work in securing the publication of important articles and addresses that have been from time to time written or given by our members;

Publication of a warning card for automobilists in connection with which an editorial appeared in the New York Sun, which has been widely copied in the press of the country;

Communicating with Secretaries of State and other officials having charge of the issuance of automobile licenses and the use of the words "Safety First" on license plates;

The publication and distribution of the Proceedings of the Second Safety Congress;

The preparation of a Safety Primer for schools, entitled "Sure Pop and the Safety Scouts," which is now in the publisher's hands and should be off the press within a few months;

Preparation and distribution of a pamphlet on "Organization";

Adoption of an official emblem;

Presentation of the National Council's work before clubs, Chambers of Commerce and other public bodies by your officers, Executive Committeemen and individual members in a large number of communities;

Supplying through the generosity of the Industrial Commission of Wisconsin of a traveling exhibit for use by clubs, Chambers of Commerce and other public bodies.

In addition to the foregoing there are a few of your Council's activities that deserve more extended comment. In January of this year, some of your officers and Executive Committeemen were called before the United States Commission on Industrial Relations and as an outcome of that hearing, the Industrial Relations Commission has recently made arrangements with your National Council to co-operate with it in making a constructive analysis of the present status of authoritative accident prevention work as undertaken by the Federal Government, State Departments, public institu-

tions, manufacturers, and other organizations with a view to assist it in the preparation of a report which will lead to constructive action. The Commission has placed at the service of the Council a number of carefully selected men who are now in the field making these investigations under its auspices and direction. We feel that this has been a distinct compliment to our Council and are hoping that our work may be of value to the Commission and the Nation and a credit to our organization.

Plans are now being made for a conference of a joint committee of the Boy Scouts of America and your Council for the purpose of outlining a plan of co-operation between our two organizations and through which the young men of the country may be interested in the Safety Movement.

We also have in hand the possible co-operation of the Federation of Women's Clubs and at our suggestion have been asked by their committee in charge of such work to outline a plan whereby the Women's Clubs of America may co-operate in the movement, and we are hoping that during the coming year something definite may be reported to you as to these two efforts.

We have had hearty and sympathetic co-operation in our work from the Conference Board on Safety and Sanitation, which has supplied one of the most interesting features of our exhibit at this Congress, as well as from the National Associations comprising that Board and many others. Similar co-operation has been accorded by and given to the American Mine Safety Association, Federal and State Bureaus and officials and numerous Chambers of Commerce and other public and semi-public bodies, as well as by a large number of the Casualty Insurance Companies, and the Workmen's Compensation Service Bureau, which have very generously contributed to and assisted in the work of our Standardization Committee which will be reported upon more in detail by that Committee.

I am happy to be able to mention today a recent development, which I am sure you will agree with me is likely—in fact, is certain—to do very much towards promoting Safety in a thoroughly practical way.

The Workmen's Compensation Service Bureau has announced an arrangement by its governing Committee approving an affiliation with the Underwriters' Laboratories, Inc., by which, under the direction of a council of technical experts of the Bureau, the Lab-

oratories will extend its inspection work to cover Safety to Life as well as to Property. Under this arrangement, the label of the Laboratories will indicate conditions standardized as regards Safety to Life from all causes, as well as with regard to the risk of property loss from fire.

It is contemplated that tests of such standards as relate to Mining Hazards and such as may not have been specified may be referred to the U. S. Bureau of Mines for investigation and expert test; and it is hoped that in its work the Laboratories will have the co-operation of the Federal and State Governments.

We have been very largely instrumental in bringing about this situation; and owing to the arrangements now made for close co-operation between our Council and the Workmen's Compensation Service Bureau, we are satisfied that such devices as may be approved by the Underwriters' Laboratories will conform to our Standards.

There remains to be mentioned the work of our special committees; namely, Committee on Standardization of Safety Devices; Committee on Industrial Hygiene; Committee on Accident Statistics and Committee on Universal Color or Colors of Danger Signs, each of which has been giving careful consideration to the subjects referred to them. Their reports will be made later during the Congress.

It is the plan, as I understand it, of each of these Committees to gather all the data available, obtain all of the expert advice possible, and in instances where special conditions exist to obtain the counsel and advice of those most familiar with such conditions and to thereupon submit the results of their investigation and study, with their recommendations, for the consideration of the members of the National Council at annual congresses for their criticisms and suggestions, and if consistent, approval, to the end that upon the questions submitted the whole membership of the Council may have its part in the decisions reached.

We would recommend for the future work of the Council a continuation of the endeavor that has been described, with some few additional activities. Especial emphasis should be given to a very energetic membership campaign, especially among the smaller industrial concerns. The promotion of the organization of Local Councils should also continue to receive preferred attention.

We believe the distribution of literature should be continued. We are hoping that there may be issued further bulletins similar to the one already issued on "How to Organize for Safety," which may go more into detail of organization for plants of different sizes — particularly as to smaller plants, and also outline educational methods, inspection methods, follow-up systems, etc.

We believe that with our present larger membership the time is now ripe for the development of the sectional plan discussed at the Second Safety Congress, and we are hoping that there may be established during the year several sections comprising some of the larger and special industries so that through sectional committees our several standing committees may be able to obtain the advice and counsel of those best fitted to pass upon questions relating to the hazards and conditions pertaining to such industries.

It is hoped that a Public Safety Section may be developed which will be able to aid in the co-ordination of the Public Safety work being done throughout the country and direct and assist our Local Councils as well as other public agencies in their public and home Safety work.

An educational section is also suggested to promote and stimulate in schools and colleges the specialized study of accident prevention work, both theoretical and practical.

It is greatly to be desired that your Council continue to hold the good-will of and co-operate with the many other agencies and activities that have the same, or similar, interests and objects.

Your own continued support and co-operation is also not only desired, but is an absolute necessity. Here, let me, on behalf of your Executive Committee and Officers, extend to you our thanks for your sympathetic interest and hearty co-operation during the past year in the work which has been undertaken for our organization. Our thanks are especially due to those who have furnished bulletins, pamphlets and other data, etc., for our distributive service, exhibits and information bureau, and to those who have so generously given of their time in service on our Special Committees and other special work. Without this co-operation nothing would have been accomplished, for, as I have previously intimated, such success as may have attended upon our efforts is entirely due to the combined activity and support of our members. We would have you know how keenly we feel this and how sincerely we thank you.

It is probably fitting also that I express personal thanks to you all for your kindness to me and for your ready support, which has never failed me when required, or called for, and this I do most heartily with the assurance that it has been very greatly appreciated, for I have felt the burden of the responsibility put upon me most keenly, and it has ever been lightened by your kind and friendly assistance. As to your Executive Committee—I would that I could express even a tenth part of the debt of gratitude I feel and think you would feel, if you could but know the sacrifice in time, energy and money that its members have made in their attendance upon the meetings of that Committee, and in the special committee work undertaken as well as other endeavors, I am very proud to feel that I may number these gentlemen as my friends, and to have had the privilege thus to have served with them.

The work of our Secretary and his efficient staff is, in a measure, known to you, but no one will ever know as I have had the opportunity of knowing how much of our progress has been due to his untiring energy, zeal and loyalty, and I would be derelict in my duty if I did not call especial attention to it. He knows my own personal feeling and appreciation of his efforts, but I feel that I may fittingly at this time add your thanks to mine, which I do most heartily.

We should all, I think, feel some pride in the task we are individually and collectively engaged in. We should remember that it is, after all is said, a real business; a real profession, and an honorable calling in which we are engaged. It is one in which there will be an ever increasing demand for those who may capably perform the task. The Safety Engineer is as much a part of the modern industrial life as is the Sales Manager, or Operating Manager, for Safety work is today recognized as an economic necessity, and one of the most constructive movements that has ever come into our National life. It is the study of the right way to do things and is consequently today recognized as one of the greatest aids to shop efficiency and economy. It is, above all, however, a humanitarian work, and we all cannot help but feel the stimulus and impetus which that element puts into our task.

We, in this country, at least, are coming more and more to a realization of that ideal which may be defined as the doctrine of the brotherhood of man, and the Council's Cause is one that should

unite all common interests and combine all together under the banner of brotherly love and economic progress. Our Council will go forward in its humanitarian and economic service only as we keep it a true service for the unselfish good of all, and untainted by personal ambition or mercenary considerations. It is with this thought in mind and a consciousness of the needs of the situation that I urge each one of you to continue to do your part—individually and collectively—toward the upbuilding of our organization, the foundations and super-structure of which we have this year builded. Our Movement is here to stay; progress will be made in it without doubt. It may be that ours are not the hands to perform the task, but whether we fail or succeed, triumph it will eventually. It is our hope that we may be the ones to carry the Movement through. Upon your activity and your co-operation in the increasing of our membership, and in the supplying of ideas, and of data and information upon which to base our service depends the character of our finished structure. May we all so join together in the work that our Council will become a temple worthy the Cause in which and for which it is built.

MR. W. H. CAMERON, Secretary and Treasurer of the National Safety Council then reported as follows:

Mr. President and members of the National Council: When I prepared my report as Secretary and Treasurer, I found that the items included therein were simply a repetition of the address made by the President, so that I shall not bore you by reading the reports which, as Secretary, I have prepared.

I have also drawn up a supplementary report as Treasurer of the National Council for Industrial Safety; but as I believe it is unnecessary to read all the details to you, I shall simply summarize thus:

That since the close of the Council's fiscal year on June 30, 1914, and up to October 10, 1914, the receipts of the National Council have been \$8,085.73. The disbursements for the same period were \$8,025.94. You received a printed report of the receipts and disbursements from the opening of our headquarters October 13, 1913, to July 1, 1914; therefore the total receipts for the entire year have amounted to \$23,287.30. The disbursements, not including loans

repaid, have reached \$23,204.48. We have a balance in the bank of \$82.82, and unpaid bills amounting to \$1,500.00.

NOTE:—The Secretary's report of the affairs and activities of the National Council, sent to members on August 14, 1914, and the Treasurer's statement of receipts and disbursements for the period from October 13, 1913, to June 30, 1914, follow:

SECRETARY'S REPORT

Chicago, Ill., August 14, 1914.

To the Members of the National Council for Industrial Safety:

It is my pleasure and privilege to submit to you the following report of the "affairs and activities" of the National Council for Industrial Safety, as provided for by Section 16 of Article III of the By-Laws. A supplementary report will be presented to you at the Annual Meeting.

The headquarters of your Council were officially opened October 13, 1913—or ten months ago—with \$1,400 in the bank to start work. Since that time 731 members have been enrolled. The Industrial, Railroad and Associate members are entitled to a representative for each \$5 paid in dues. This means that we have 2,155 representatives. The application forms show that the total number of workmen represented by these memberships is about 750,000. The membership is at present increasing at the rate of approximately 100 per month. These members are located in nearly every State of the Union; 10 in Canada, and 4 in England and Scotland.

One of the important undertakings of the National Council at the time of its organization was the establishment of a "clearing house of information." It soon became apparent that it would be necessary to communicate the contents of this Bureau to members, either through the medium of a monthly magazine—lists of its publications, the preparation of bulletins, or by means of letters sent out periodically. Weekly letters were decided upon accompanied by from three to five pamphlets, posters, bulletins, accident statistics, blue prints, etc., etc., to give an indication of the literature accumulated in the Bureau and available to members as possible assistance in their Accident Prevention work. Thirty-eight of these letters have been mailed to date, with enclosures, requiring two portfolios

to contain the accumulation. This has been the Council's most direct means of helping members practically with their problems, and it is believed has assisted considerably in securing memberships during the rather depressed business period through which we have passed. Many of the members have asked for extra copies of these bulletins, etc., for distribution among workmen, foremen, Safety Committees, and others, and for posting on bulletin boards. The posters have been particularly useful for this purpose. Much of the literature has been statistical, and has been useful in demonstrating to all that 75% of the accident problem is organization and education, and by this means we have been able to convince many various classes of industries that the service of the National Council was applicable to both small and large industries, as well as to all classes of work.

As an addition to this direct service special pamphlets and bulletins have been distributed to certain classes of industries to which the data particularly applied, or appealed. As the outcome of this demonstration of the data available in the files of the Council, many inquiries have been received for information on special topics. In several instances the opinion of a dozen members has been secured on a mooted question, and all have benefited by the inquiry. In a word, the need of a headquarters, or Central Information Bureau, for the accumulation and distribution of the accident experience of all industries has been proven beyond a doubt. Special thanks is due to members who have contributed liberally, and without expense to the Council, copies of pamphlets and other literature prepared especially for the benefit of their own employees. Where it has been impossible to secure data relating to a subject which seemed of importance, the National Council has prepared and printed at its own expense many of the items which have accompanied the weekly letters referred to.

Fifteen Local Councils have been organized to date, namely:

- Harrisburg Local Council No. 1, Harrisburg, Pa.
- Youngstown Local Council No. 2, Youngstown, Ohio.
- Chicago Local Council No. 3, Chicago, Ill.
- Peoria Local Council No. 4, Peoria, Ill.
- Lehigh Valley Local Council No. 5, So. Bethlehem, Pa.
- Pittsburgh Local Council No. 6, Pittsburgh, Pa.

Philadelphia Local Council No. 7, Philadelphia, Pa.

Detroit Local Council No. 8, Detroit, Mich.

Rochester Local Council No. 9, Rochester, N. Y.

Milwaukee Local Council No. 10, Milwaukee, Wis.

Kansas City Local Council No. 11, Kansas City, Mo.

Joliet Local Council No. 12, Joliet, Ill.

Grand Rapids Local Council No. 13, Grand Rapids, Mich.

New York Local Council No. 14, New York City.

San Francisco Local Council No. 15, San Francisco, Cal.

The annual reports of these Local Councils will be included in the Proceedings of the Third Annual Congress. Much important work has already been done by these Locals, and the plans for the coming fall show increasing interest and the possibility of much help to the communities in which they are located from the standpoint of Industrial, Public and Home Safety. Your National Council headquarters has, of course, assisted with the programs, lecturers, moving picture films, etc., etc., required for meetings and the promotion generally of the work of these Local Councils.

Four National Committees have been appointed by the President, with the consent and approval of the Executive Committee, namely:

Committee on the Standardization of Safety Devices.

Committee on Industrial Hygiene.

Committee on Accident Statistics, and

Committee on Universal Color or Colors of Danger Signs.

Reports from these four committees will be presented at the Annual Congress, October 13th to 15th, inclusive. Much constructive and helpful work is being done by these committees voluntarily for the general good of the membership of the Council and the country at large. It is hoped that standards on the various subjects will be arrived at from time to time and these will become available to the members as they are approved at the Annual Meeting for publication.

Your Officers and Executive Committee have realized the need not only for the standardization of Safety Devices, but for co-operation with a National institution or institutions, capable of scientifically testing out Safety Devices, based upon standards created by your Council, and for the inspection and certification of such devices

at their places of manufacture. The Council hopes to announce at the Annual Congress the completion of negotiations now in process for carrying out this plan.

The United States Commission on Industrial Relations has recently made arrangements with your National Council to co-operate with it in making a constructive analysis of the present status of authoritative Accident Prevention work as undertaken by the Federal Government, the various State Departments, public institutions, manufacturers, and other organizations with a view to assisting it in the preparation of a report which will lead to constructive action. The Commission has placed at the service of the Council a number of carefully selected men, who are now in the field making these investigations under its auspices and direction.

The attention of your Officers and Executive Committee was directed to the need of educating school children in the principles of Safety, and under the guidance of a Special Committee, and an author of prominence, a book has been prepared entitled "Sure Pop and the Safety Scouts." A contract has also been entered into with a book publishing company to manufacture and sell this book for use in public schools and through every other possible agency. The book will be sold at a very low price, and it is hoped that sample copies will be available for the Annual Congress. Arrangements have been made to supply every member with a sample copy.

A pamphlet entitled "How to Organize for Safety" was especially prepared by the President of your Council and carefully considered over a period of months by the members of your Executive Committee. This pamphlet has been very widely distributed, and we believe has materially assisted in the promotion of the organization feature of Accident Prevention work in the industries.

In addition to paying out of its funds the expense of the Second Annual Congress in New York, the Proceedings of this Congress were compiled, printed and distributed to all members of the Council and others at a large expense of time and money.

Through the generosity of the Commission on Industrial Relations of Wisconsin a traveling exhibit of 1,200 photographs of Safety devices was placed at the disposal of your National Council. This exhibit has been shipped to many of the larger communities for exhibition under the auspices of Local Councils, Chambers of Com-

merce, etc., and it is hoped during the coming year to make it of increasing value to Local Councils, industrial centers, etc.

An official Safety badge, or button, has been designed and prices secured from some of the principal button manufacturers, and the information sent to members in the hope that they will adopt the Council's emblem as the basis of their individual safety button, and not only meet the need of increasing interest in this means of popularizing the Safety Movement, but, if possible, give National prominence to the emblem of the Council and what it stands for.

A great deal of publicity of the National Safety Movement from the standpoint of the industries, the public and the home has been conducted through trade magazines, newspapers, and other media, consisting of the reproduction of lectures, addresses, pamphlets and special articles. Cuts and other data used in this publicity work have been put at the disposal of our members for special publicity propaganda.

Your Officers, Executive Committee and many members have assisted the Council's work through public addresses, lectures in public schools, etc., etc., in the promotion of interest in the Public Safety Movement.

Your Council has fulfilled in some measure its promise to furnish Safety Inspectors, lecturers, moving picture films, stereopticon slides, etc., to its members to assist in promoting their Safety work by such means.

While it is believed the Council has been fortunate in securing as many members as it has, it should be stated that approximately 100,000 letters, circulars and special pamphlets have been distributed to prospective members, and a great deal of special work done to interest employers and others in the work of the Council.

It is believed by your Executive Committee and Officers that through your co-operation and enthusiastic interest, not only from the standpoint of reducing the appalling number of accidents in the United States, but by directly interesting yourselves in the work of the National Council, that much work has already been done, which will redound to the benefit of every member, and it is hoped by continued persistent effort that you will in time make conditions safer in the industries, in public places, and in the home.

Respectfully submitted,

W. H. CAMERON, *Secretary.*

NATIONAL COUNCIL FOR INDUSTRIAL SAFETY

Statement of Receipts and Disbursements for the Period from
October 13, 1913, to June 30, 1914.

RECEIPTS:

Membership Dues:

Active	\$10,657.32	
Associate	120.00	\$10,777.32
Contributions		4,140.00
Sales of Pamphlets, Bulletins, Circulars and Miscellaneous Receipts.....		277.25
		<u>\$15,194.57</u>

Amount advanced by Officers
for Current Expenses (to
be repaid when funds have
accumulated)

\$ 3,650.00

Deduct: Repaid

1,500.00

2,150.00

\$17,344.57

DISBURSEMENTS:

Salaries of Secretary-Treasurer, Assist- ant Secretary and Office Staff.....	\$ 6,808.20
Printing of Bulletins, Pamphlets and Cir- culars, Office Stationery and Supplies...	3,089.44
Office Furniture and Equipment.....	1,549.21
Expenses of Second Annual Congress....	1,167.61
Postage	995.94
Rent of General Offices.....	980.00
Traveling Expenses	988.43
Expense of Preparation of Manuscript of Primer	500.00
Telephone and Telegraph.....	226.10
General Office Expenses, Expense of News Clippings, Moving Expense, Stere- opticon Slides, etc., etc.....	640.96
Expenses of Various Local Councils.....	373.65
	<u>\$17,319.54</u>

BALANCE:

Cash on Hand.....	\$ 50.08	
Less: Overdraft at Bank.....	25.05	25.03
		<u>\$17,344.57</u>

AUDITOR'S CERTIFICATE

We have examined the above Statement of Receipts and Disbursements of the National Council for Industrial Safety, have compared it with the books and vouchers and have found it correct.

DELOITTE, PLENDER, GRIFFITHS & Co.

Chicago, Aug. 12, 1914.

Accountants and Auditors.

THE CHAIRMAN: We will now receive the the report of the Chairman of the Council's Accident Statistics Committee.

Thereupon Mr. Royal B. Meeker, presented the following report:

Your Committee on Standard Forms for Accident Reporting has been unable to hold a formal meeting of organization. It has, however, met in joint session with the National Conference on Standardization of Accident Reports and Tabulations, the Committee on Standard Schedules and Tabulations of the American Association for Labor Legislation, representatives of the Workmen's Compensation Service Bureau, the United States Bureau of Mines, and certain others who were specially invited to take part in this meeting. This joint conference was held from 10:00 to 12:45 yesterday morning, from 2:15 until 5:00 p. m., and from 8:30 p. m. until midnight last night.

As Chairman of your Committee I am able, therefore, to report progress and very substantial progress.

The order of business as given in the call for this joint conference was: (1) consideration of the ground covered in the meetings held in New York City, February 26 and April 10, 1914; (2) consideration of the accident report form; and (3) consideration of the report of the conference subcommittee on classification of industries and occupations.

The resolutions adopted by the Conference are as follows:

1. Definition of reportable accidents. (a) All accidents causing death, permanent disability, or loss of time other than the balance of the day, turn or shift on which accident occurred shall be classified as reportable accidents, and a report of all such accidents to some State or National authority shall be required. (b) Where a compensation act provides for any expense on account of medical attendance or hospital treatment, thus necessarily involving a report

of such cases, even though resulting in no loss of time or in a loss less than that specified above such minor accidents should be classified separately in all tabulations and compiled reports. (c) The employer shall be required to enter upon his record all reportable accidents as above defined, and also all accidents causing a loss of time less than that above specified or requiring any medical attention.

2. Classification of accidents according to their consequences.

(a) Accidents should be classified according to their consequences as resulting in death, total permanent disability, partial permanent disability, and temporary disability. (b) Accidents resulting in temporary disability should be classified according to length of temporary disability so as to show the number terminating in the 2d and 3d days, number terminating in the 4th to 7th days, inclusive, number terminating in the 2d week, in the 3d week, in the 4th week, in the 5th to 13th weeks, inclusive, in the 14th week and later. (Clear definitions of the classes are yet to be adopted.)

3. Time of reporting accidents. (a) In the case of accidents terminating fatally within 7 days of the accident occurrence, notice shall be given within 24 hours of death. All reportable accidents shall be reported, upon standard accident blanks, in full, within 7 days of the occurrence of the accident. (b) A committee shall be appointed to formulate a resolution covering the subject of the final report.

4. Accident report forms. The following form was adopted as the standard form recommended for use for first reports of accidents:

Standard Schedule for Accident Reports.

FIRST REPORT OF ACCIDENT TO EMPLOYEE.

(To be filled out and sent in within 7 days of the accident.)

I. EMPLOYER, PLACE AND TIME.

- a. Employer's name
- b. Office address: Street and No.....City or Village.....
- c. Business (goods produced, work done, or kind of trade or transportation)
- d. Location of plant or place of work where accident occurred, if not at office address.....
Street and No.....City or village.....

- e. Date on which accident occurred.....
- f. Hour of day..... g. Hour injured person began work
that day.....

2. INJURED PERSON.

- a. Name..... Address.....
- b. Sex..... c. Age..... d. Single, married, widowed
or divorced
- e. No. of children under 18 years.....
- f. Speak English..... If not, what language?.....
- g. Occupation when injured..... In what department or
branch of work?..... Was this regular occupation.....
If not, state regular occupation.....
- h. Length of experience both here and elsewhere in occupation
followed when injured.....
- i. Piece or time worker..... j. Wages, or average earnings,
per day.....
- k. Working hours per day.... l. Working days per week....

3. CAUSE.

- a. Name of machine, tool or appliance in connection with which
accident occurred.... By what kind of power driven?....
Hand feed or mechanical feed.... Part on which accident
occurred.....
- b. Describe in full how accident happened.....
.....
.....

4. NATURE AND EXTENT OF INJURY.

- a. State exactly part of person injured and nature of injury.....
.....
- b. Did injury cause loss of any member or part of a member? If
so, describe exactly.....
.....
- c. Attending physician or hospital where sent: Name and address
.....
- d. Has injured person returned to work?.....
If so, give date and hour.....
Date of report..... Made out by.....

5. Average number of men. (a) The basis used for the average number of men should be the actual number of man hours for the year; that is, the total working time for all employees of the establishment or the department for the year reduced to the number of hours required for one man to do the same work. This should be taken from exact records if such records are in existence. (b) If this exact information is not available in this form in the records, then an approximation should be computed by taking the number of men at work (or enrolled) on a certain day of each month in the year, and the average of these numbers multiplied by the number of hours worked by the establishment for the year would be the number of man hours measuring the exposure to risk for the year.

6. Computation of rate of accidents. Accident rates should be expressed in terms of number of accidents per 1,000 full-time workers; that is, workers employed 300 days of 10 hours each. (This is in accordance with the practice of Germany, Austria, and a number of other European countries and also in accordance with the recommendation of a joint committee of the Permanent International Committee on Social Insurance and the International Institute of Statistics.)

That is as far as we have agreed. We have considered the classification of the causes of accident—no agreement being possible. Now, and incidentally, there was an item of business which should have been taken up, but was delayed because the chairman of the committee which was asked to report was not present. That item was "The Classification of Industry and Occupations." You see that there are some important matters that we have settled—I don't say permanently—but this heterogeneous joint meeting has come to substantial agreement upon many important matters. Nevertheless, there are some very important matters that we have not yet touched the surface of. Thank you, Mr. President.

THE PRESIDENT: When you hear a constructive report of that character, you can understand why I have felt great pride in the work of our special committees. What is your pleasure with respect to the report of this committee?

MR. H. M. WILSON: (United States Bureau of Mines, Pittsburgh). I move that it be accepted and placed on file and that the committee be continued.

The motion prevailed.

THE PRESIDENT: I might say in connection with the putting of motions that it has been our idea that we would take viva voce votes unless there is a demand for a roll call. Let that be your judgment.

We will hear a report from the Program Committee. I think the Program Committee has no particular report, inasmuch as their report is virtually in the printed program before you. I think we need not delay for that. The Nominating Committee will now report, through Mr. H. W. Forster, its chairman.

MR. H. W. FORSTER (Independence Inspection Bureau, Philadelphia): Mr. President, ladies and gentlemen: The Nominating Committee, acting under the requirements of the by-laws, prepared a proposed list of members to fill vacancies caused by either expiration of terms or resignation or death, and this proposed list which was developed after careful consideration, was sent out to the entire membership a month or two ago in accordance with the requirements of the by-laws. It is not necessary for me, Mr. President, at this time to read the list of names as it will be read in full this afternoon in connection with voting for directors.

THE PRESIDENT: If there is no objection, this report of the committee will be received and placed on file. Now for the report of the Resolutions Committee, which will be presented by Mr. Arthur T. Morey, Chairman of the Resolutions Committee.

MR. A. T. MOREY (Commonwealth Steel Company, St. Louis, Mo.): Mr. Chairman and Gentlemen: We have all received a copy of the proposed amendments to our Constitution, they having been proposed—in the form required by our Constitution—to the Secretary in writing, signed by twenty members, and a notice of these proposals sent to each of the members. I will read the resolution which now comes up for final consideration and passage. I might interpolate a few remarks as I get along. Mr. Chairman. It might facilitate an understanding of some of the conditions involved.

“Resolved, that the Council be fully incorporated under the laws of the State of Illinois as a non-profit making association, under the name of ‘The National Safety Council.’”

So far we have been practically a partnership without any corporate entity, and our contracts for offices and so forth have had

to be taken personally on the personal obligation of our officers. It seems that we have reached a point in our progress where we should have a more dignified organization and that we should incorporate our Council. Also, that the name "National Council for Industrial Safety" was a little bit long. When you go to write that it takes too long. We thought "National Safety Council" was a better name, a shorter name, and so near to sounding like the other name that we considered it would not lose to us any of the good-will acquired by the old name. We all speak of the "National Council."

And that the Executive Committee and officers be authorized and directed to institute or cause to be instituted any proceedings, to execute or cause to be executed any document, to pay any and all fees and costs, and to do or cause to be done any and all acts necessary or desirable to legally and properly accomplish said incorporation; and that upon said incorporation being duly formed, that all assets and all liabilities of the National Council for Industrial Safety be respectively duly transferred to and assumed by said new corporation; that the members in good standing of the National Council for Industrial Safety at the time of said incorporation be made and taken over as members in good standing of said new Corporation; said transference to and assumption of membership by said new Corporation to be accomplished without cost to said members; that the Constitution and By-laws of the National Council for Industrial Safety be made and adopted as the constitution of the National Safety Council so far as is legally permissible or desirable; said Constitution and By-laws to be authorized to be changed in any way necessary, but as little as possible, to effectuate said purpose to conform them to the proper Constitution and By-laws of said new Corporation.

That the Constitution be amended, so that Article I, Section I shall be changed to read: Section 1. Name. This organization, incorporated as a non-profit association under and by virtue of the laws of the State of Illinois, shall be named the National Safety Council. So that Article I, Section 2, shall be changed so as not to limit the object of the council to the conservation of human life in the industries, but that said Section 2, and paragraph (f) thereunder shall be amended to read as follows: Section 2. Object. The object of this organization shall be to promote the conservation

of human life—the safety, health and welfare of the individual, the workman in the industries, and the public generally, particularly as related to the prevention of accidents and vocational diseases and the subject of industrial sanitation and to that end:

(f) In general to initiate, promote, co-operate with and obtain the assistance of any and all activities or agencies calculated to conserve human life, health and welfare; and to participate in and aid other activities for the welfare of the industrial workers of the country.

So that Article III, Section I, shall be changed to permit the number of directors of the council to be altered as may be provided in the By-laws, so that, as amended, said Section shall read: Section I. Directors. The affairs of the council shall be under the direction of Directors composed of seventy-five members, or such other number as the By-laws may provide, which board shall be divided into three classes, equal in number, to serve respectively until the first, second and third meetings and until their successors are elected and qualified."

Mr. Chairman, I move that this resolution and these amendments be adopted.

THE PRESIDENT: You have heard the report. I assume we may, without objections, consider the report received and placed on file. A motion is now made that the resolution as recommended by the committee be adopted. Do I hear a seconder?

The motion was seconded.

THE PRESIDENT: The motion is duly seconded. Is there any discussion? Do you care to discuss the question? Are you ready for the question?

The question was called for.

THE PRESIDENT: All those in favor of the adoption of the resolution will signify by saying "Aye," the contrary "No."

The resolution was unanimously adopted.

MR. A. T. MOREY: There are so many evidences about us of the thoughtfulness and care of the Arrangements Committee and of the Entertainment Committee, that I think we should give them a vote of appreciation and thanks. The program and its details, the

arrangements for, and care of, members and guests, the plans for the entertainment of the ladies all indicate splendid thought and attention, for which I am sure we are all very grateful.

Also, I do not think it amiss to express our appreciation of the facilities and services of this fine hotel; and, as all do who ever come to this wonderful and beautiful city, we can also express our pleasure and appreciation for the always present hospitality and conveniences of this splendid city of Chicago.

Mr. Chairman, I make such a motion.

The motion prevailed.

THE PRESIDENT: A motion to take from the table the report of the Standardization Committee will now be in order.

MR. VAN SCHAACK: I make that motion.

MR. SMITH: I second it.

THE PRESIDENT: Motion is duly made and seconded to take from the table the report of the Standardization Committee. All those in favor of the motion will signify by saying aye; those opposed, no.

(Motion carried.)

THE PRESIDENT: We have before us the report of the Standardization Committee. I understand that the Standardization Committee is now offering certain modifications in the standards of safety as submitted to you and mailed to you sometime prior to this meeting.

The idea we have is to, as far as possible, pass and approve as much of this report as we can consistently do at this meeting, to the end that we can get behind and avoid further consideration of those propositions that we are all satisfied with, and it would be my idea that we go through this report here, taking up the different sections, as, for instance, "general rule," first, and then "housekeeping" and so forth; and ascertain whether or not, under them, there are any objections that any of you have to make to the proposed standards of the Committee. Does that seem to you the best way to handle that situation?

MR. YOUNG: Mr. President, with reference to that, I would like to modify your statement somewhat. The Committee does not pre-

sent the Standards asking that they be approved, as the Committee itself is not yet ready to approve them. We feel that we should go very slowly in sending Standards out with the approval of the National Council.

A number of National organizations have formulated, or are now working on Standards, and your Committee suggests that when Standards are prepared by an Association of national repute, that they be adopted, so far as possible, with such additions as may be thought necessary to make them generally applicable.

It is also proposed by your Committee that close co-operation be obtained between the Council and all National and State organizations, and with Safety experts, with a view to obtaining the best thought and widest experience, and also by such co-operation securing the greatest uniformity in formulating Safety Standards.

I do not believe that the Committee tonight would be in a position to approve the Standards as submitted, or even as we might in this meeting change them. A number of people who are here today, asked permission to send their written criticisms of the proposed Standards, and the Committee itself would like to have more criticisms of the Standards as now printed.

With this in view, the Committee suggests that after such discussion as may be had here this evening on these Standards, that the whole subject be referred back to the Committee. If this be the pleasure of the members present, the Committee will endeavor to closely co-operate with all interested in this work, and at some future date present a report which will be more in harmony with the views of the members of the Committee, and we trust with the views of the other members of this Council.

After some further discussion of the subject, on motion of Mr. Wilson, duly seconded and unanimously carried, the matter was referred back to the Standardization Committee for further investigation and sufficiently further report, with the understanding that those members who have any suggestions to offer will do so by correspondence with the Chairman of the Committee.

THE CHAIRMAN: The report of our Industrial Hygiene Committee will now be presented by Doctor J. W. Schereschewsky, of the United States Public Health Service, who is acting chairman of that Committee.

DR. SCHERESCHEWSKY (United States Public Health Service): I regret very much to report that our chairman, Professor W. Gilman Thompson, of Cornell Medical School, is now ill and therefore unable to attend this session. In his absence, it devolves upon me to make a report of the committee's work in the last year.

In view of the fact that the present campaign for industrial safety has very clearly indicated the close inter-relation of the health of workers to the prosperity of industries, the Executive Committee of the National Council for Industrial Safety, at a meeting held in Chicago, February 16, 1914, created a Committee on Industrial Hygiene in the National Council for Industrial Safety, whose duty it should be to look into matters of industrial hygiene and sanitation and make the necessary recommendations for the improvement of hygienic conditions in industries to the National Council for promulgation among its members.

The following personnel of the committee were appointed by the National Council for Industrial Safety: ✓

Dr. D. L. Edsall, Professor of Medicine, Harvard University, Chairman.

Mr. Samuel R. Lewis, Member of Chicago Commission on Ventilation, President of American Society of Heating and Ventilating Engineers.

Mr. C. J. Mundo, General Electric Company, Pittsburgh, Pa.

Dr. F. D. Patterson, Director, Department of Sanitation and Accident Prevention, J. G. Brill Co., Philadelphia, Pa.

Dr. G. M. Price, Director, Joint Board of Sanitary Control of the Garment Trades, New York, N. Y.

Dr. J. W. Schereschewsky, Surgeon, U. S. Public Health Service, Secretary; and

Dr. B. S. Warren, Surgeon, U. S. Health Service.

All these gentlemen accepted their appointments with the exception of Dr. Edsall, who regretted that, while very desirous of promoting the hygiene and sanitation of industries, his duties were such as not to permit his assuming the chairmanship of the committee. He consented, however, to become a member of the committee and give it the benefit of his advice.

The first meeting of the committee was held in New York, N. Y., on Thursday, March 12, 1914, for the purpose of organizing the work. It was decided that Dr. W. Gilman Thompson, Professor

of Medicine, Cornell Medical School, and a distinguished authority on questions of industrial hygiene and occupational diseases, be requested to become the chairman of the committee. Dr. Thompson accepted this invitation.

The committee then considered the first steps which should be taken in the work of making recommendations for the improvement of industrial sanitation, and it was decided, as a preliminary step, to collect information as to sanitary standards in regard to the following topics: ventilation, illumination and medical attention.

Mr. Mundo was to collect the data in regard to illumination.

Mr. Lewis, in regard to ventilation and heating.

Dr. Price, in regard to general sanitation, and

Dr. Schereschewsky, in regard to First Aid and Medical Attention.

Another meeting was held in New York, April 18th, 1914, at the residence of Dr. W. Gilman Thompson, the Chairman of the Committee. At this meeting Dr. Patterson was requested to collect information as to the present status of measures for the protection of workers in the lead industry of the United States.

Another meeting was held August 13, 1914, at which the program of the proceedings for the session on industrial hygiene at the Annual Safety Congress of the National Council for Industrial Safety, was considered.

Collection of Data on Sanitary Standards: Dr. Price was authorized, with the sanction of the National Council for Industrial Safety, to employ clerical assistance in collecting existing regulations on ventilation, illumination, and general sanitation, in various states of this country and foreign countries, with a view to determining the maximum and minimum requirements. This information has been collected and submitted to the various members of the committee for their consideration.

Ventilation: The regulations relating to this subject were submitted to Mr. Lewis, who has arranged for a committee of the American Society of Heating and Ventilating Engineers to cooperate with him in preparing a report. It is hoped that this report will be forthcoming by January 1, 1915.

The Protection of Lead Workers: Dr. Patterson has been engaged in collecting data on this subject from various manufacturers of lead products in this country. The results of his studies

are embodied in a paper to be presented at this congress before the session on Industrial Hygiene.

First Aid and Medical Supervision: The Secretary spent the past summer on an investigation, in the course of official duties, during which numerous data have been collected in regard to industrial morbidity. The tabulation of these data and the report will probably be ready in January, 1915.

ILLNESS OF DR. THOMPSON.

It is a matter of great regret to report that since about the first of August, Dr. Thompson, Chairman of the Committee, has been seriously ill and has been unable since that date to take an active interest in the affairs of the committee.

RECOMMENDATIONS.

It is the policy of the committee to submit all tentative recommendations to those interested, both scientifically and commercially, in various industries. Such recommendations will be presented as rapidly as completed to the Executive Committee of the National Council for Industrial Safety, for action.

INCREASE IN PERSONNEL OF COMMITTEE.

The committee believes that its efficiency will be promoted by the addition to it of a reasonable number of active workers, whose names are to be suggested by the committee and selected with a view of locality and specialization.

PROGRAM FOR 1915.

The committee intends to continue its work along the following lines:

First—Further study and elaboration of the standards on light, ventilation and general sanitation.

Second—The status of the protection of lead workers.

Third—First Aid and Medical Supervision, particularly with relation to standards for first aid and physical examination of workers.

THE CHAIRMAN: Gentlemen, personally, I feel very much gratified over the work of our Industrial Hygiene Committee. I

feel particularly grateful because we are working so closely in harmony with the Federal government, and that we are able, with their close co-operation, to have made special investigations that would be possible for our organization to make only through some such co-operation. I feel that ultimately when this Committee presents its definite and final conclusions and recommendations, the National Council will have something exceedingly constructive to offer to the world at large through the work of that Committee. What is your pleasure as to the work of the Committee? If there be no objection, the report might be considered as received and placed on file.

We will now listen to the report from the Committee in charge of Color or Colors of Danger Signs if Doctor Patterson is here. Owing to the inability of several members of that Committee to reach Chicago yesterday, it was necessary to postpone the meeting of that committee from yesterday until today. As I do not see Doctor Patterson in the room, I presume that the Committee is still in session. We will pass the matter until later this morning—or this evening—if the Doctor is not ready to report before the noon adjournment.

I see that the Chairman of our Finance Committee is now in the room. If he will step forward we will be glad to hear the report of the Finance Committee. Mr. David Van Schaack, Director of the Bureau of Inspection and Accident Prevention, of the Aetna Life Insurance Company.

MR. DAVID VAN SCHAAK: The Treasurer of the Council has already presented to you a statement showing the actual financial condition of the Council as of October 10th, as well as an accounting for all of the moneys received. In my report, therefore, it will not be necessary to touch upon all of the details connected with the securing of the funds necessary to pay the operating expenses of the Council, nor to report to you item by item the necessity for the expenditures. I would like to say, however, in a general way, that the financial affairs of the Council have been carefully supervised; and the accounts were analyzed and checked up with great care by a well-known firm of chartered accountants at the end of the fiscal year, as provided by the By-Laws.

It may occur to some of the members of the Council that we

have spent a good deal of money during the first year of our existence. Much could be said upon this point, but I need only remind you, as experienced business men, that successful and progressive work can be accomplished only by a liberal expenditure of money. As has been stated by our President, the Council opened its headquarters a year ago today with \$1,400 actual money in hand, which represented approximately forty memberships, so that the establishment of our headquarters, including the furnishment and the equipment of the Information Bureau, as well as the heavy cost of the weekly bulletin service, photographs, stereopticon slides, stationery and supplies, traveling expenses, general postage, telephone and telegraph, clipping bureau service, and many other miscellaneous items have had to be paid out of the current receipts. No commissions, or fees, have been paid for the securing of the membership applications, but you will realize that a very vigorous advertising and solicitation campaign has had to be undertaken to arouse the interest of the employers who required the help of the Council but did not know much about its work, nor the service it was ready to give for small membership dues. Some of these memberships have been secured as the result of seven and eight letters. It has been estimated that the Staff of the headquarters has handled 100,000 pieces of advertising pamphlets, circular letters, etc., and has prepared and dispatched nearly 12,000 individual letters soliciting memberships. Therefore, the financial policy of your Council has been to push forward, and make an effort to spread the Gospel of Safety in the large and National way that it was organized to do, all of which has necessitated a considerable expenditure of money in circularization, postage and traveling expenses, etc.

It may also be timely to remind you that the strictest business principles have been followed in the equipment of the headquarters, in the purchasing of supplies, and in managing the routine work. The business of the Council has been handled with the same dispatch as any other business institution. Of course, this was the right method for your officers to follow, but it is proper to state here that we have had abundant evidence that we could secure and retain the good will of members only by giving personal and efficient service at the same time that a portion of their dues was diverted to the National work which is being accomplished.

You will realize that it would have been an easy matter to have

proceeded more conservatively and saved some of the money which we have collected, but we believe that the renewals of 99% of the membership, as of July 1, 1914, (only three out of two hundred were not renewed) indicates that our members were satisfied with the reasonableness of the expenditures made and the service given therefor.

The renewals of memberships as of July 1st placed the Council in a splendid financial condition; and, notwithstanding the falling off in new memberships during the months of July and August, your Finance Committee, nevertheless, hoped that a deficit would not be shown at this time. We have, however, felt the curtailment of business expenditures caused by the European war, and the membership accretions have fallen off more than 50%. The probabilities are that this decrease will continue until business becomes more active and employers more liberal in their expenditures. The deficit of \$1,500, however, about equals the investment in office furniture and fixtures. In addition to the deficit, which the Treasurer's report shows, it will be necessary to raise \$5,000 in either memberships, or contributions, before the first of January. Throughout the year of 1915 it is believed that the renewals, with even a slight increase in membership, will be sufficient to pay the average monthly expenditures, which we believe will amount to approximately \$2,000 per month. Our fixed expenses amount to \$1,033 (including salaries, rent, etc.), and we believe \$1,000 will be sufficient to pay the other monthly expenses of the Council. We believe a very much larger business, and greater activity, can be carried forward with about the same amount of fixed expenses, and as our membership increases it will naturally follow that an even larger publicity and membership campaign can be carried on and greater service given.

In conclusion, I wish to remind every member that our Council is a co-operative organization; that many additional benefits will accrue to every member by the widening of the membership, because we will not only be assured a larger revenue and sufficient to pay all of our expenses on the basis of the very modest dues, but the contributions of the experiences of a larger membership will augment the value of the Council's service to you.

I join with the Officers and Executive Committee of the Council in thanking every member for his allegiance and loyalty to our Cause, and for the assistance a great many of you have given with

the very necessary function of raising enough money to pay the expenses of doing the work which we all believe to be so necessary.

I should like to add my earnest appeal to every member of the Council to personally solicit memberships. This is *your* Council, and the only way in which it can be made a permanent success is for every one of you to take a personal interest in securing members, as well as in the furnishing of information, and in the Discussions which take place at our Annual Congress. A great deal of the expense of the Council during the last year has necessarily been incurred in the Membership Campaign. If every member of the Council would go out from here with the firm intention of personally bringing in between now and the 1st of January a few members, who would yield, say, fifty dollars in membership fees, our financial troubles would be absolutely over and a large part of the time which our executive officers find it necessary to devote to that purpose could then be devoted to the general service, which makes the Council of such benefit to us all. I thank you.

MR. C. W. PRICE (Assistant to the Industrial Commission of Wisconsin): I move that the report of the Chairman of your Finance Committee be accepted, and, if you will not rule me out of order, and will give me a moment, I should like to emphasize from the floor one or two points that Mr. Van Schaack has made.

I have got one or two things on my mind, Mr. Chairman, that I want to get off, and I desire to talk—provided you won't turn me down.

THE CHAIRMAN: I have always had the experience that if you don't let Price get it off soon, he will get it off later, so, with your permission, we will hear from him.

MR. PRICE: I sometimes wonder, friends, whether we men—and I am looking into the faces of three hundred men right in the rank and file—whether we men who are right in the thick of this movement appreciate that we are in a pioneer movement. I can remember just seven years ago when it was one of my humble duties to help organize the safety exhibit at the Casino, and I remember distinctly how new this safety movement was at that time. I remember distinctly how ignorant the manufacturers of machinery were. The thing was raw and new at that time.

I wonder, moreover, if we safety men realize how new this thing is, and if we *do* realize that we are pioneers in a pioneer movement, and in a great movement. Friends, that means two things—it means saving the men, women and children from being killed, and second—which is not so important but it ought to be spoken of—it is a part of the great efficiency movement that is now sweeping over the country: a movement in which every intelligent general manager and officer of a company, clear down to the humblest workman, is vitally interested. There is not an intelligent safety man in this room who would question for a moment that the safety movement is an efficient movement and that it pays in dollars and cents.

Now, this movement, which is so great and so humanitarian a one, and recognized by every one as such, turns out at the same time to be an efficiency movement. So, with these two great forces at work, it seems to me, friends, as if the future is dead open and shut. The safety movement has come to stay. It is sweeping the country; and it is moving as no other movement, making for the conservation of human beings, has moved so far as I know.

Coming now to what I want to say—this is just the opening—I am not standing here merely to make a speech: I have something in mind. I think every man in this room is familiar with one or two National Associations which consist of a paid Secretary and a lot of figure-head officers, and where all the work accomplished is done by the Secretary. Now I am telling you that the National Council is going to stand or fall, depending upon whether we—the men in the ranks now, the men in this room and all the safety men in this country—really feel the need of such an organization: really appreciate the value of what it is giving to you. More important still, whether we, the rank and file of safety men who are out in the field doing the work will put our shoulders to the wheel—each one of us I mean—and do something to make this organization a real organization, and not a figure head; not just simply an organization with yearly meetings.

The National Council has marvelous possibilities and is going to be a real organization, because we men in the ranks here appreciate the value of what it is doing, and we are doing something to promote its interests.

Our Chairman of the Finance Committee has told you what must be done before the first of the year. Now, as a member of the Executive Committee, having attended the Sessions of that Committee, I want to say we have had an uphill pull all the way and all the time. We have got one lap more, Mr. Chairman, before we reach the top of the hill. Then it is either going to be downhill, or on the level.

Well, friends, won't each one of you three hundred safety men go to the Secretary, Mr. Cameron, and tell him, "Now look here, Mr. Cameron, I pledge you that I will go out and get fifty members, or five," or at least go and tell him, "You can count on me from now to January to at least get one member." That certainly is a reasonable request. That is the least that the Executive Committee can ask you, and I am saying to you that there is nothing that would give the President of this Council and our Secretary and the members of the Committee such downright encouragement as to have you men go out and do that. Every one of you is getting the literature of this organization. I don't doubt but that every one of you appreciate it as I appreciate it, when I compare it with the old days, when one didn't have anything, and when one had to run around and make it up. And now it comes to my door. There is no doubt that you appreciate we never before had such a chance to get reliable information.

If you are really interested in this as a humanitarian cause, if we are men interested in our fellow men, we want to do something besides ride in the wagon. Get down out of the wagon for the next three months and put your shoulder to the hub of the wheel and push. Let us all together now—*push*. (Applause.)

MR. H. W. FORSTER (Independence Inspection Bureau, Philadelphia): I apologize for rising so frequently, but you know each of my efforts has been brief. Without an eloquent preamble, I second the motion which has been made, and I now desire to speak a word of warning.

When you go out and tackle your acquaintances or your friends for membership in the National Council, for heaven's sake be careful not to paint this picture as glowingly as it has been painted. Once in a while I have gone out and told these men what they could get for five dollars, and they have said, "Men who

have tried to sell us Mexican rubber plantation stock have talked in the same way."

THE PRESIDENT: Gentlemen, you have heard the motion that the report of the Finance Committee be received and placed on file. Really, before putting the motion, I would like to supplement what has been said by a personal appeal to you. We who have been putting our heart into this thing, and some of our time, have felt the burden pretty keenly. We have felt that we had the right thing. We still feel so; we believe that our idea and our organization are the right kind and the right ones, but we do need just a little more of your support and your co-operation along the lines that have been indicated. If each one of you could bring in from four to five new memberships between now and the first of January, your officers, the Executive Committee that you select, will do the rest. Of that I have no doubt, because the problem will then be easy. I wish you could all pledge something like that before you get away.

The motion is that the report of the Finance Committee be received and placed on file. All those in favor will signify it by saying "Aye," the contrary minded "No." The motion is unanimously carried.

The report was adopted.

THE PRESIDENT: The next order of business is the report from the Local Councils, but if I may I am going to change the order and take up the election of the Directors, so as to get that more or less formal matter out of the way. Under the provisions of our Constitution and By-Laws, the only Directors who can be voted upon at this meeting are those who have been nominated in accordance with the provisions of the By-Laws. The Nominating Committee has presented a report. There is no members' ticket. We have, therefore, the simple task of electing the members proposed by the Nominating Committee to serve for three years.

MR. L. B. ROBERTSON (General Attorney, Ford Motor Company, Detroit, Mich.): If such a motion could be entertained, owing to the fact that Mr. C. H. Gifford, of the American Blower Company, whose name is presented with the rest, is not longer connected

with the field, I would move that the name of Mr. F. H. Hadrich, of the Solvay Process Company, be substituted.

THE PRESIDENT: I regret to advise you that that would not be in order here. The only names we could consider in this meeting would be those that have been presented in the way provided in the By-Laws. If Mr. Gifford is not eligible to serve after election, the vacancy so created would have to be filled by the Board of Directors themselves in accordance with the By-Laws.

MR. ROBERTSON: Suppose he was dead?

THE PRESIDENT: One of them is dead, and that vacancy will have to be filled by the Board of Directors themselves in accordance with the provisions of the By-Laws.

MR. SMITH: This suggestion undoubtedly will receive consideration.

THE PRESIDENT: Mr. Robertson is a Director himself. He can make the same motion to the Board of Directors this afternoon at five o'clock.

MR. ROBERTSON: I do not know what By-Law you refer to, but I never heard of a Committee report yet that was not subject to alteration or correction in the body itself. This Committee report was presented and placed on file. Now, I move to amend the report of that Committee before its adoption, if our By-Laws prevent the amendment of any report.

THE PRESIDENT: Mr. Robertson, Article 3, Section 14 of the By-Laws provides that the Directors of the Council to the number to be elected each year shall be elected by a plurality vote cast by ballot and so forth. The Nominating Committee to be appointed in the manner hereinafter provided shall at least ninety days prior to the date of the holding of the annual meeting submit to the Secretary of the Council its report in writing of nominations of successors to the Directors, whose term of office shall expire in that year. The Secretary of the Council shall cause to be mailed to each member and each representative of a member, at least sixty days prior to the date of the holding of the annual meeting, a copy of such report.

Therefore, the nominations having been made as they are, the purpose being to have ample notice given to all members of the candidates for the office of Directors, it will be the ruling of the Chair that the motion at this time could not be considered. I know the Directors would be very glad to consider the suggestion when the announcement is made at the Directors' meeting to fill the vacancy as the By-Laws provide.

MR. ROBERTSON: With all due deference to the By-Laws and the ruling of the Chair, I wish to appeal from the ruling, for the reason that this Committee, under that ruling, could nominate men who were not members at all, and under that rule we would be prohibited from electing legally qualified Directors of this Council. Of course, this Council is not incorporated, but for all purposes of carrying on the business the same rules should apply, and in a corporation you could not elect a man legally to office who was not a stockholder in your Corporation. Now, we propose to elect a man who is not a stockholder of our corporation, who is not affiliated with it as a legally elected Director. I say legally it cannot be done.

THE PRESIDENT: It has been the intention, Mr. Robertson, having had notice that since this nomination Mr. Gifford was no longer connected with the concern which he had formerly represented, to announce that not only he, but one of the other men, who was removed from the list by death, would not be voted for. They are not being voted for, as he is not eligible, and therefore, his name is to be stricken off, but at the time the Nominating Committee reported, we had no notice of Mr. Gifford's withdrawal from the company he formerly represented. An appeal has been taken from the ruling of the Chair. Do I hear a second to that appeal?

MR. A. T. MOREY (Commonwealth Steel Company, St. Louis): When the By-Laws were first considered (I speak because I at that time had some small part in the formulation and the compilation of the By-Laws) it was very earnestly considered how best we could keep the democratic nature of our Council and get the full expression of every one in all these important matters. It was felt that if a list of all the Directors to be voted upon were put

in the hands of every member at least sixty days before a meeting, there would be plenty of opportunity given to the members to discuss the different candidates and come to this meeting prepared to vote accordingly, and if any were objectionable there would be plenty of time and opportunity given for other candidates to be nominated by the members. It seems to us to work out a very desirable condition. I think it will all appeal to us as such when we stop to think of it.

Now, the particular matter of this one person was discovered in time, and our President spoke to us this morning of its having appeared and that it was to have been rectified. It was entirely through a misunderstanding. The gentleman was a member at that time. It was a mistake which has been discovered. I don't see how, under the By-Laws as written, the President could make any other ruling than he has. It would hardly be proper for us to overlook our own By-Laws. I would certainly speak for the sustaining of the Chair by his ruling.

MR. L. B. ROBERTSON: I did not make this motion in a spirit of opposition to Mr. Gifford, but we are confronted here with a legal proposition on the question of electing our own Directors. Now, any body of Stockholders in an organization are entitled to elect their Directors. It is not the prerogative of the Directors themselves to elect Directors. That is the prerogative of the Stockholders. We are the Stockholders. Now, the Nominating Committee come in here and nominate a dead man and a man who is not a Stockholder. Then they say to us as Stockholders of this organization, "Oh, well, we will attend to filling these vacancies. You have nothing to say about it." I say it may be a By-Law, but it is not good sense nor is it good law, that the members of this organization, in annual Convention assembled, cannot have the right either under the By-Laws or under the law to fill this Board of Directors, when we have notice in time of the death of one and the ineligibility of another who is proposed by the Nominating Committee. I am not appealing for the purpose of appealing, because I insist this body has the right by election, by our votes, to fill our Board of Directors at this meeting. We cannot pass a By-Law which will abrogate the laws of the State of Illinois or any other State as to the election of the Directors of a Corporation.

Now, we are not incorporated, you understand, but a resolution has been adopted here, that we become incorporated, and the Committee report is not subject to amendment. The Committee cannot itself then, strike off these names, even if they are all dead, under their theory. But this idea of being democratic afterwards—suppose half of these men were ineligible, and we would not be permitted to amend here, or elect men who are not eligible, what would be the prerogative of the board? Take away your democracy and nominate afterwards whom they please. I don't say they would do that, because they wouldn't. But I do say that we have a right at this meeting to fill that board by the substitution of two names of eligible Directors.

THE PRESIDENT: I am perfectly agreeable personally to any action that may be taken. It is only the function of the Chair to rule according to what he is governed by. The constituted authority of the organization is the Constitution and By-Laws. I have been constrained to make the ruling by virtue of that section which I read to you. It may be that the By-Law is wrong. That I am not going to discuss from the Chair. There was a purpose for it when it was adopted. The By-Law is as I have indicated it. The Chair has been appealed from. Is there a seconder to the appeal?

MR. FORSTER: I second that.

THE PRESIDENT: The appeal is seconded. The question is, therefore, shall the ruling of the Chair be sustained? Those voting for the affirmative will vote for the upholding of the ruling of the Chair.

A viva-voce vote was then taken and the affirmative prevailed.

THE PRESIDENT: I have to announce that the ruling of the Chair has been upheld.

The Directors to be voted for comprise the list on this printed report, less the names of Messrs. C. H. Gifford and J. D. M. Hamilton, the latter of whom since the report, has been called to his "Fathers." This leaves twenty-three names on the list to serve for three years. Do you wish me to read them? The names to fill vacancies that have been created in the remaining two-year term are, Messrs. Brownell, Forster and Hansen. There

being only these nominations before the membership, a motion might be in order for the Secretary to cast the ballot of the membership for these men to serve for the several terms mentioned—the ballot to be presented to the Committee on Inspections of Election to carry out the formalities required by our Constitution and By-Laws. Do I hear such a motion?

MR. PRICE: I move you, Mr. President, that the Secretary be instructed to cast such a ballot.

MR. ROBERTSON: I move to amend that he be instructed to cast the ballot for the entire list presented.

THE PRESIDENT: Is it proper, Mr. Robertson, to vote for a man who is not now a member, whose resignation or inability to act has been called to your attention, and one who is now deceased?

MR. ROBERTSON: I understood by the ruling of the Chair that we could not change the report of the Committee.

THE PRESIDENT: We may not vote for others than those on the list. Not that those who are not members may not be stricken off by reason of their non-eligibility.

MR. ROBERTSON: The Chair then holds that this meeting cannot fill the board complete.

THE PRESIDENT: It cannot. A motion has been made and seconded. Are you ready for the question.

The question was then called for, and being put, the motion unanimously prevailed.

THE PRESIDENT: The motion is unanimously carried. Will the Secretary hand the ballot to Mr. J. M. Woltz, Mr. Geo. T. Fonda and Mr. John A. Robertson to declare the presentation of the ballot? I think you may do so very informally while we are waiting.

MR. H. W. FORSTER: Mr. President, it occurs to me that if you wish to overcome a situation such as that which has arisen here it might be possible to suggest an amendment to our By-Laws which would make it possible, in the event of ineligibility, to fill these vacancies at a meeting.

THE PRESIDENT: Under our By-Laws the By-Laws are amendable by the Board of Directors; the Constitution is amendable by the membership. I have no doubt that the Board of Directors would be glad to receive a suggestion from the membership if the membership makes one to them in regard to the amendment of the By-Laws in that particular.

MR. FORSTER: I make that motion.

The motion was seconded.

THE PRESIDENT: The motion has been made and seconded that we suggest to the Board of Directors that they give consideration to amending the By-Laws to take care of the contingency that now arises where nominations have been made, and, at the time of the meeting, the men by death or resignation are not eligible to serve. Are you ready for the question?

The motion prevailed.

MR. A. T. MOREY: Of course, we have had this year simply a tentative organization. We have found the things which should be improved. The Executive Committee went all over the By-Laws to find what changes should be made, and one of the changes suggested—which changes are to be brought before the Board of Directors this afternoon—was that the By-Laws should be open for amendment by the members. I think that goes without saying. It was an oversight in the By-Laws, that the members should be able to amend them—not only Directors. That change is already in process, and I presume will be adopted by the Directors this afternoon. As to these other changes—cannot we have a free discussion? This organization must be democratic. Let us proceed to make our By-Laws avoid these objections and meet the wishes of every member. It has been only the desire of every one to have these things right, and I think we can be grateful to our friends. If one has seen some points that can be remedied it is good to know of them. Let us keep at this in a co-operative manner until we get our By-Laws in shape to please every one of us.

THE PRESIDENT: The Chair is heartily in accord with what has been said. The ruling has had to be made because the constituted

authority said so, and the Chair has no other prerogative. Are the Inspectors of Election ready to report the casting of the ballot?

MR. J. A. ROBERTSON: Mr. Chairman, I was just handed this bunch of proxies a few moments ago, and have not had time to check them. I would like to ask time until after lunch.

THE PRESIDENT: Is it necessary that the Inspectors of Election pass upon these proxies at this time?—the five per cent of membership being assembled here in the members present in person? What is your pleasure in that respect? It is a mere formality.

MR. J. M. EATON (Cadillac Motor Company, Detroit, Mich.): Mr. Chairman, it has been announced that there is five per cent of the membership present. I think it is waste of time and foolishness to go over those proxies.

THE PRESIDENT: It is just a formality, that is all. If you find subsequently that there is any defect we will give you an opportunity to withdraw it at the adjourned session this evening, if needs be. Will you make the announcement, then, of the election of these gentlemen?

MR. J. A. ROBERTSON: Let me be clear on one point. I did not know I was on this Committee. I got here three hours late this morning. I am not going to vouch for anything unless I know it is so. If Mr. Campbell says there is one-fifth of the membership present I believe it; but we have not checked them—and if we find there is not a fifth we will report it.

THE PRESIDENT: Well, with that understanding we will assume that the Inspectors of Election report the casting of the ballot for these gentlemen, subject to reservation that after examination of the proxies these gentlemen will be declared elected if there be no objection. Is there any objection?

DR. CHANEY: It seems to me that that leaves them unelected. I can't see that that ruling either elects them or doesn't elect them. It simply says that they are elected unless we find they are not. Let us find out beforehand.

DOCTOR A. M. HARVEY (Crane Company, Chicago): I would suggest the tellers report the result of the election at the evening session.

Third Safety Congress

THE PRESIDENT: It is desirable that they report at the two o'clock session, prior to the formal sessions of the Congress. A meeting of the Board of Directors is called for five o'clock, and the newly elected Directors should be entitled to sit at that meeting. Just to conform to the letter of the law, the inspectors will be given until two o'clock to make their report, objection having been made otherwise by Doctor Chaney.

MR. WHITE: Mr. Chairman, may I ask in this connection what standing have we who have no proxies?

THE PRESIDENT: You have registered at the registration desk, and you are registered in person as attending in person. The teller will check up all the registrations at the registration desk, plus the proxies on hand, taking out the withdrawals that have been made here this morning.

MR. WHITE: That is perfectly satisfactory. I thought the proxies were going to vote it.

THE PRESIDENT: Not at all, sir. The report of the Committee on Danger Color and Danger Signs was passed—the Chairman of the Committee not being present when it was reached. Have you a report, Doctor Patterson?

DOCTOR FRANCIS D. PATTERSON (Director, Department of Sanitation and Accident Prevention, Harrison Brothers & Co., Inc., Philadelphia): The Committee on Danger Signs was appointed about three months ago, and we have begun the investigation of what is a very important question. At this time the Committee is prepared to make only a tentative report. The question has been raised not only as to what is the best color or colors for a universal danger sign, but also as to what should be the shape of that sign, whether or not it should be the familiar disc, either red or some other color, or whether or not it ought to be such a thing as an uplifted hand, with which most of us are familiar as indicating "Stop."

Thanks to the courtesy of one of the large electrical laboratories, your Committee is now engaged in having a research made into what would be the best color or colors for this sign. Furthermore, we have begun a series of tests to be carried out on employees, not

only as to what is the best color or colors, but also as to what the best shape of this sign should be. The time has been so short that we are not prepared at this time to make a detailed report of the results of our investigation, but we hope if the Council sees fit to continue us in this work, that when we have our next meeting we will be able to come before you with a detailed statement which will be based upon experiments which have been made upon more than one hundred thousand employees. We intend to take a large proportion of these men, and make careful tests to determine exactly what is their ability in discernment of colors. We expect to make additional tests on men whom we know to be color blind; and we hope, if you will continue us in the work, that from time to time Mr. Cameron will have some information in his weekly bulletins to send out to you, which we hope eventually will give the standards to be adopted by all the various industries in the country.

THE PRESIDENT: If there is no objection the report of the Committee will be received and placed on file and the Committee continued in office. Do I hear any objection? It will be so ordered.

Reports were then presented from several Local Councils covering activities up to June 30, 1914.

These reports are as follows:

CHICAGO LOCAL COUNCIL.

As Secretary of Chicago Local Council Number Three, I beg leave to submit herewith the first annual report of the Secretary of Council, as for the year ending June 30, 1914, in accordance with Section IV of Article XI of the Constitution and By-Laws of the National Council.

A first meeting of members, resident in Chicago and vicinity, of the National Council for Industrial Safety, was held on November 13, 1913, at Room 1446 Commercial National Bank Building, Chicago, at which some thirty-five men were present, representing large industries engaged in business in this section. Temporary officers were selected, who were constituted a committee for the purpose of drafting and proposing a set of By-Laws for a Local Council. The Temporary President was authorized to make necessary committee appointments. A second meeting was called at the La Salle Hotel on November 21, at which the report of the By-

Laws Committee was heard, and suggestions were made for certain changes to be made therein, and the meeting adjourned to give the committee sufficient time to submit a revision of the By-Laws, incorporating the suggestions made. At a subsequent meeting on November 23rd, the By-Laws were adopted, a copy of which are attached hereto, as a part of this report. At this meeting there were also elected the permanent officers of the Council, to hold office until the regular meeting in November, 1914, or until the election and qualification of their respective successors. Such officers are as follows:

President, Dr. A. M. Harvey.
Vice-President, Mr. W. J. Tewksbury.
Secretary, Mr. Samuel A. Harper.
Treasurer, Mr. J. C. Smith.

These officers served in their respective offices during the year. Regular standing committees were provided for, and appointments made, as follows:

MEMBERSHIP COMMITTEE.

Mr. J. J. Heelan, Chairman.
Mr. Cudworth Beye.
Mr. I. A. Berndt.
Mr. Chapin Roberts.
Mr. Henry L. Brownell.
Mr. Harry E. Steger (now deceased).
Mr. Barney Cohen.
Mr. E. E. Hooper.
Mr. Harry J. Bell.

PROGRAM COMMITTEE.

Mr. Edgar T. Davies, Chairman.
Mr. Charles B. Scott.
Mr. J. C. Adderly.
Mr. B. C. Christy.
Mr. Edwin R. Wright.

STANDARDIZATION COMMITTEE.

Mr. A. F. Stahl, Chairman.
Mr. George A. Hart.

Mr. Charles F. Kroell.
Mr. A. H. Young.
Mr. George H. Whittle.
Mr. F. A. Barker.
Mr. Harry L. Gannett.
Mr. Oscar F. Nelson.

The Membership and Program Committees have been the more active of the regular standing committees, there being little opportunity as yet for much activity on the part of the Standardization committee.

As a result of the work of the Membership Committee, and the very helpful co-operation of the officers of the National Council, the membership of the Local Council was brought to a total of 95 on June 30th, 1914, with designated representatives, amounting to approximately 127 additional.

The Program Committee has had charge of the regular monthly conference meetings, which have been held during the year, and have arranged, with the co-operation of the officers of the Council, both local and National, the programs for these meetings. Six such meetings have been held, most of them at the City Club, at which subjects of interest, with reference to the general safety movement, have been discussed. Addresses have been made by safety engineers, and other experts in the safety movement, and moving picture films and stereopticon views have been largely employed to illustrate the talks given. Many men from other cities have been heard on these occasions. These meetings have always been preceded by a dinner, given under the auspices of the Local Council, and an effort has been made to give to the meetings as much of the informal, conference character, as possible, with an opportunity given to all to express their views on the safety questions being discussed.

At the last conference meeting held in May, an adjournment was taken until October.

Respectfully submitted:

SAMUEL A. HARPER,
Secretary Chicago Local Council Number Three,
National Council for Industrial Safety.

DETROIT LOCAL COUNCIL.

Total membership—34, of which 8 are located in the City of Adrian, Michigan.

As respects the movement for safety, leading up to the final organization of this Local Council, it may not be out of place to cite the fact that as early as November, 1912, upon the instigation of the executive management of the Michigan Workmen's Compensation Mutual Insurance Company, in conjunction with the representatives of a few of the leading manufacturing concerns in the City of Detroit, a meeting was held, looking to the inauguration of a campaign for Industrial Safety, and what was later known as the "Detroit Conference for Accident Prevention" became a reality. Regular monthly meetings were thereafter held, at which were represented companies employing upwards of 75,000 employees. These meetings were addressed by some of the leading experts in Accident Prevention work in the United States, the addresses being illustrated by picture exhibits, demonstrating what had been accomplished by several of the largest manufacturing industries of the country, in the line of Accident Prevention, such as the installation of physical guards and devices, co-operation among, and education of employees.

Through the energetic and able efforts of Mr. W. H. Cameron, Secretary-Treasurer of the National Council for Industrial Safety, this so-called Conference of Accident Prevention was finally merged, at the regular meeting held in February, 1914, into a Local Council of National Council for Industrial Safety, the first Board of Officers being as follows:

Chas. H. Gifford, President.

L. B. Robertson, Vice President.

Elmer H. Dearth, Secretary and Treasurer.

E. S. Raymond, Chairman Membership Committee.

J. M. Eaton, Chairman Program and Publicity Committee.

At said first meeting of the Local Council in February, Mr. C. W. Price, Assistant to the Wisconsin Industrial Commission, and Director of Exhibits of the National Council for Industrial Safety, was the principal speaker. He presented a most intensely interest-

ing account of the campaign of organization and educational work among the employees of the various manufacturing industries in the State of Wisconsin. This meeting was very largely attended, among the more prominent guests being members of the Michigan Industrial Accident Board, Mr. W. H. Cameron, Secretary-Treasurer of the National Council for Industrial Safety, and many others of prominence in industrial organizations of the City of Detroit, and the State at large.

These meetings were held regularly each month, during March, April and May. Possibly the most interesting meeting, barring that of the February meeting, was that held in the month of April, which was addressed by Mr. Stephen W. Tener, brother of Governor Tener of the State of Pennsylvania. Mr. Tener, as Manager of the Accident and Pension Department of the American Steel & Wire Company, and also member of the main Safety Committee of the United States Steel Corporation, is acknowledged as one of the leading experts in the Accident Prevention movement of the United States. This meeting was likewise honored by the presence of our State Industrial Accident Board—Messrs. J. E. Kinnane, Chairman, J. A. Kennedy, Ora E. Reeves, and Secretary R. L. Drake.

Each of these meetings was largely attended, and much interest and enthusiasm was aroused among all those present, in this all important "Safety First" movement. The next meeting is scheduled to be held on the second Tuesday in September, at which the election of officers for the ensuing year will take place, and plans consummated for a series of monthly meetings during the year 1914-15.

There were no regular standing committees appointed other than the Membership Committee, of which E. S. Raymond is Chairman, and the Program and Publicity Committee, with J. M. Eaton as Chairman.

We have been somewhat disappointed in the acquisition of new membership in our Local Council, but anticipate a goodly influx of new applications during the coming year. It is hard to understand why any employer of labor should hesitate for a moment in securing a membership in this most important organization, considering that the expense involved is so insignificant, as compared with the large

benefits derived thereby. Instead of 34 members, the Detroit Local Council should have several hundred before the close of another year.

Respectfully submitted,

ELMER H. DEARTH,
Secretary-Treasurer.

GRAND RAPIDS LOCAL COUNCIL.

On March 19, 1914, Messrs. Meves, Horton, Baxter, Diamond and Watkins, all being Members or representatives of Members of the National Council for Industrial Safety, received authority from the National Council for Industrial Safety to organize a Local Council for Industrial Safety in the City of Grand Rapids.

As a preliminary of the organization of Local Council, Messrs. W. H. Cameron, Secretary National Council for Industrial Safety, and C. H. Gifford, President Detroit Local No. 8, addressed the Committee of One Hundred of the Grand Rapids Association of Commerce at a noon luncheon, April 8th.

On May 19th the Constitution and By-Laws were accepted and adopted, and the following officers elected for Grand Rapids Safety Council, Local Section No. 13: E. K. Prichett, President; S. L. Vaughan, First Vice President; Harry Leonard, Second Vice President. The President appointed the following chairmen on standing committees: L. G. Withey, Chairman, Membership Committee; H. M. Taliaferro, Chairman, Program Committee; George K. Heff, Chairman, Publicity Committee.

Since the meeting at which Local Council was organized no regular meetings have been held, as it was deemed advisable not to hold meetings during the summer months, but steps are being taken to arrange a program covering the meetings for the fall and winter months, which will begin some time in September.

The Safety Exhibit which was arranged by Mr. C. W. Price of the Industrial Accident Board of Wisconsin is at present on display at the Grand Rapids Association of Commerce rooms under the auspices of the Grand Rapids Local Council No. 13. Invitations were sent out by the President to two hundred and forty of the largest employers of this city, and the exhibit has been examined by a great many people thus far. The Membership Committee will follow up these invitations by letters soliciting applications for

membership in the Local Council of the firms who were invited to this Safety Exhibit.

Our Local Council has been actively at work co-operating with the Safety Committee of the Grand Rapids Association of Commerce improving conditions locally for better protection of the public and also workmen engaged on construction or repairing buildings. Also other fields of public safety. We also co-operate with the Grand Rapids Automobile Owners Association for the enactment of ordinances to better regulate traffic and pedestrians.

The members of the Grand Rapids Local Council No. 13 are the following: Mr. Claude Taylor, Baxter Laundry, Excelsior Wrapper Co., Nichols & Cox Lumber Co., American Seating Co., Clipper Belt Lacer Co., Grand Rapids Insurance Agency, The Macey Co., Grinnell-Row-Althouse Co., The Cargill Co., Tisch-Hine Co., Grand Rapids, Grand Haven & Muskegon Ry., Grand Rapids, Holland & Chicago Ry., Wilmarth & Morman Co., and Grand Rapids Refrigerator Co.

Respectfully submitted, July 16, 1914.

E. A. MEVES,
Secretary-Treasurer.

HARRISBURG LOCAL COUNCIL.

✓ Charter was applied for at the Second Annual Safety Congress in New York, September, 1913, with six (6) members signing the application. The charter was granted, and Harrisburg was given number "1" as the first Local Council. During the first Welfare and Efficiency Conference of the Department of Labor and Industry, Local Council work was taken up to some extent, and at that time we were honored by the acceptance of Governor John K. Tener, of Pennsylvania, as our honorary member. I regret to report that just at this time the officers of Local Section No. 1 were overwhelmed with a tremendous amount of business, and, also, our Chairman, Mr. John R. Brownell, was obliged to leave this territory, owing to a change in business connection. For this reason the Council affairs lapsed somewhat, notwithstanding the fact that we secured some fifteen (15) memberships, aggregating a total voting strength of forty-nine (49). Among these memberships were the Pennsylvania Department of Labor and Industry, and the Pennsylvania Steel Company.

Later, the affairs of the Harrisburg Safety Council were revived at a meeting held in February; officers were elected and the constitution adopted. A membership campaign was planned, and some new members were secured, although I regret to say that our efforts in this direction did not meet with the success that we had hoped for.

While, perhaps, the work of the Harrisburg Safety Council has not loomed up to any great extent in the public eye, the individual members of the Council have been doing some very good work in connection with their duties in the Pennsylvania Department of Labor and Industry, and the Local Section has been co-operating to a considerable extent with the Department in the work of accident reduction and safety organization throughout the industries of this Commonwealth. We feel that a considerable amount of good has resulted from this co-operation. The Harrisburg Safety Council is still working on this membership campaign, and has increased the membership somewhat, although we have been disappointed in two or three instances by some of the more prominent establishments in this section. We are beginning to appreciate the difficulty of "teaching an old dog new tricks," but hope by continual plugging to change the viewpoint of these establishments and show them where they can declare dividends by adopting our methods of organization and following the general plan of the National Council.

The officers of the Harrisburg Safety Council and the Executive Committee are bending their energies toward a general meeting to be held during the Pennsylvania Department of Labor and Industry Second Welfare and Efficiency Conference in November, and it is at present the plan to hold this meeting under the auspices of the combined Local Councils of Pennsylvania, and, by hearing from each of them, show the local manufacturers what is being done in other parts of the State, and enlisting them in our ranks.

I regret that at this time I cannot report greater progress; but sincerely hope that we will be able to report great strides before the snow flies.

Respectfully submitted,

THEO. J. GOULD,
Secretary, Local Section No. 1.

Noted and approved:

R. W. PENNOCK,
President.

LEHIGH VALLEY LOCAL COUNCIL.

On October 23, 1913, a meeting was called in the offices of the Bethlehem Steel Co., South Bethlehem, Pa., for the purpose of organizing a Local Council of the National Council for Industrial Safety. As a result of this meeting, five (5) companies in addition to the Bethlehem Steel Co. took out membership in the National Council and application for a Local Council was made immediately. Those who filed their applications for membership in the National body at this meeting were as follows: Bethlehem Steel Co., Bethlehem Fdry. & Mach. Co., Fuller Engineering Co., Guerber Engineering Co., Lehigh Valley Light & Power Co., Atlas Portland Cement Co.

At the close of the fiscal year I am pleased to report that this membership has increased to twenty-nine (29) members, all of these being industrial companies with but one exception.

Regular monthly meetings have been held on the third Friday of each month, at which meetings the regular business of the Local Council has been transacted and general discussions pertaining to the work of Safety and Welfare, both industrial and public, have been enthusiastically entered into. Papers have been read by members from time to time, the same being properly illustrated by the use of slides whenever possible.

Local No. 5 made her first public appearance at Easton, Pa., on the night of March 20th, at which time Mr. W. H. Cameron, Secretary and Treasurer of the National Council for Industrial Safety, gave an illustrated lecture on "Enthusiasm in Safety Work." This lecture was given in the Orpheum Theatre and attended by approximately 2,000 people. Mr. Cameron also delivered the same lecture in Palmerton and South Bethlehem under the auspices of the New Jersey Zinc Co. and the Bethlehem Steel Co. for the benefit of their respective employees.

Suitable by-laws have been adopted by Local No. 5 to comply with the Constitution and By-Laws of the National Council. A copy of said by-laws will be filed with the National Secretary.

In accordance with the By-laws adopted two (2) regular committees were appointed to serve for the current year, i. e., Program Committee, Membership and Publicity Committee. These Commit-

tees have been decidedly active and have done much to make our first year a successful one. The Program Committee arranged a most interesting program for each month up to January 1, 1915, and every meeting thus far has been exceptionally well attended. The Membership Committee has done excellent work in that our membership has been increased five-fold since our inception.

Local No. 5 has, perhaps, followed along a little different line than some of the other Local Councils in regard to canvassing for new members. We have more especially exerted our efforts among the industrial companies of this vicinity, feeling that the greatest possible good could be done through enthusiastic members of this class. The present membership of Lehigh Valley Local Council No. 5 is made up of men whose interest in the work as started by the National Council affects the well being of over 35,000 industrial workers. The general work of publicity has been carried on by the Membership Committee as part of their duties. The newspapers have been given information regularly in regard to the doings of our Local Council, which has been given due prominence, and in that way Local No. 5 has made itself much talked about by the general public.

Altogether we feel that the work accomplished during the few months that we have been in existence is most gratifying and there can be no question as to the scope of the work which may be done through the co-operation of the various Local Councils now in existence.

Respectfully submitted,

GEO. T. FONDA,
Secretary and Treasurer, Local Council No. 5.

PHILADELPHIA LOCAL COUNCIL.

In accordance with Section iv, Article xi, of the Constitution and By-Laws of the National Council for Industrial Safety, we give below a report of Philadelphia Local Council No. 7, covering the period from its organization on January 20, 1914, to the thirtieth (30th) day of June, 1914.

The active membership on June 30, 1914, was sixteen (16).

The Council was organized at a meeting held in the private dining

room of the Colonnade Hotel, Fifteenth and Chestnut streets, Philadelphia, on the evening of January 20, 1914. Subsequent meetings of the Council were held on February 3d, February 19th, March 5th, March 31st and April 15th.

In addition to these meetings, public meetings were held in the Auditorium of Franklin Institute on April 28th and May 28th, at which prominent speakers delivered addresses on various phases of the safety question. All persons attending these meetings were furnished with literature explaining the benefits to be derived from affiliation with the National Council and cards upon which they were requested to place their names and addresses, and these names have been placed on our mailing list for invitation to future meetings, as well as to form a basis for solicitation of members. The attendance at both of these meetings was very encouraging, and they are to be resumed early in September next.

A carnival, under the auspices of The Home and School League, will be held in this city in the near future, and our Local Council expects to make an exhibit at this time, and, also render material assistance to the League in the way of furnishing speakers, etc. It is fair to assume that this carnival will result in a great forward movement of the cause of accident prevention in this community.

A copy of the By-laws of this Local Council is attached hereto.

Committees on Membership, Publicity and Programme were appointed at the second regular meeting of the Council, but, unfortunately, the Committee on Membership has been unable to devote as much time as both they and we should have liked, owing to the fact that its members have been out of the city much of the time. It should also be borne in mind that the summer season has overtaken our Council rather early in its career, much of the time since its organization having been spent in securing a representative list of honorary vice presidents as a basis upon which to build the foundations of our organization and, also, in spreading information concerning the National Council and its activities.

The Committees on Programme and Publicity have done good work, which was evidenced by the interest with which our public meetings have been received.

Yours truly,

J. C. JOHNSON,
Secretary.

ROCHESTER CHAMBER LOCAL COUNCIL.

"At a meeting of the Accident Prevention Committee in the rooms of the Rochester Chamber of Commerce on the night of Wednesday, May 6, 1914, the Rochester Chamber Local No. 9 of the National Council for Industrial Safety was organized, with the following officers:

"John F. Robertson, Eastman Kodak Company, President.

"Dr. John F. Forbes, Rochester Business Inst., Vice-President.

"Phillip Will, Sill Stove Works, Secretary.

"Messrs. Robertson and Forbes accepted office, but Mr. Will, who was not present at the meeting, afterwards declined, and at a later meeting of the Executive Committee, Mr. W. Roy McCanne of the Stromberg-Carlson Telephone Manufacturing Company was appointed.

"At the time of its organization the Local Council had 29 firm memberships represented by 74 men. In the aggregate these firms employed approximately 13,575 people, and with 3 additional individual memberships, paid dues for the membership in the National Council for Industrial Safety amounting to \$330.00 per year. On June 30th there were 37 firms represented by 101 men, employing approximately 21,278 people, and which, with the additional 7 individual memberships, pay a total of \$520.00 annually in dues.

"At the initial meeting of the organization, By-Laws were unanimously adopted.

"Since its organization the Rochester Chamber Local No. 9 has had two meetings of its entire membership, at the first of which Mr. John L. Train, representing a Workmen's Compensation Insurance Company of Utica, spoke on the Mutual Companies, explaining the operations of mutual companies under the new law. At the second meeting of the membership of the Rochester Chamber Local No. 9 held in the rooms of the Rochester Chamber of Commerce on the night of Monday, June 22d, 1914, Mr. F. Spencer Baldwin, Manager of the New York State Workmen's Compensation Insurance Fund, of New York City, and Mr. Lester Fisher, Deputy State Workmen's Compensation Commissioner, of Rochester, were present at guests. Mr. Baldwin spoke on the workings of the State Insurance Fund of New York City, having had two or more years' experience as Manager of the State Insurance Fund of Massachusetts. He had an audience of 250 business men, members of the Local

No. 9 and of the Rochester Chamber of Commerce, whose membership was invited to attend, and many questions were asked the speaker.

"The Executive Committee of the Rochester Chamber Local No. 9 was appointed by President Robertson, as follows, and held its first meeting in the rooms of the Rochester Chamber of Commerce at noon on Wednesday, May 13th, 1914:

1. H. O. Alderman, Alderman, Fairchild Co.
2. James Barnes, C. T. Ham Mfg. Co.
3. Bancroft Carson, Taylor Instrument Companies.
4. Wilmot Castle, Wilmot Castle Co.
5. D. B. DeLand, Sanitary Can Company, Fairport, N. Y.
6. Edward FitzGerald, Bastian Brothers.
7. George R. Fuller, Rochester Telephone Co.
8. A. I. Jones, Pfaudler Co.
9. E. M. Lowenthal, Max Lowenthal & Sons.
10. W. Roy McCanne, Stromberg-Carlson Telephone Mfg. Co.
11. R. E. McDougall, New York State Railways.
12. W. J. O'Hea, New York Telephone Co.
13. L. B. Somerby, General Railway Signal Co.
14. F. H. Swan, Rochester Stamping Co.
15. Donald Symington, T. H. Symington Co.
16. L. M. Todd, G. W. Todd & Co.
17. P. S. Wilcox, Eastman Kodak Co.
18. Dr. E. H. Wolcott.
19. T. H. Yawger, Rochester Railway & Light Company.
- 20.

"At this meeting Mr. McCanne was appointed Secretary of the Local Council to succeed Mr. Phillip Will, who declined office. Mr. McCanne was automatically removed from the Executive Committee, and at a later date his vacancy on the Executive Committee was filled with the appointment of Mr. Gilbert T. Amsden of the Amsden-Kabfleisch Company. At a later date the Executive Committee in session approved the change from Wilmot Castle to Arthur Castle in its membership.

"The following list of proposed committees of the Rochester Chamber Local No. 9 of the National Council for Industrial Safety was introduced by President Robertson at this meeting of the Executive Committee and ratified:

Third Safety Congress

No. 1.

PROGRAM COMMITTEE

"The duties of this Committee shall be to arrange for all general meetings of the Rochester Chamber Local No. 9, and to correspond with and arrange for all speakers and for the display of moving pictures and lantern slides or any other form of entertainment which will be interesting to the members of the Local Council.

No. 2.

MEMBERSHIP COMMITTEE.

"The duties of this Committee shall be to cooperate with the National Council in securing additional members of the Local Council, and to keep on hand a supply of information for interested prospects.

No. 3.

FACTORY SAFETY ORGANIZATION COMMITTEE.

"This Committee shall gather all necessary data for the proper organization of safety work in large and small manufacturing plants.

No. 4.

PHYSICAL EXAMINATION COMMITTEE.

"The duties of this Committee shall be to investigate and secure all possible data on the best methods for physically examining all employees and, wherever possible, to secure data on the results obtained by concerns that have already adopted this feature of industrial betterment.

No. 5.

COMMITTEE ON PUBLIC ACCIDENTS.

"The duties of this Committee shall be to suggest means and methods for preventing street accidents and preparing publicity for the education of the general public; also, to cooperate with the Commissioner of Public Safety, the Automobile Club, and other organizations which have influence in preventing accidents to the general public.

No. 6.

STANDARDIZATION OF SAFEGUARDS.

"The duties of this Committee shall be to secure all publications with reference to the standardization of safeguards, classify the data and be in position to properly advise any member of the Local Council as to the best methods of safeguarding machinery or other dangerous conditions in manufacturing plants.

"Chairmen for the above committees shall be appointed by the President, and all of these committees, together with any other new ones which the Executive Committee may create, shall report to the Executive Committee at each meeting, and any expense or publicity must be approved by the Executive Committee before procedure.

"In addition to the above committees it was voted to create a committee for a propaganda of safety work among public and parochial school pupils.

"President Robertson appointed the following as Chairmen of the Committees, with the exception of that for work among the school pupils, the Chairman of which was to be appointed at a later date:

- E. M. Lowenthal, Program Committee.
 - W. J. O'Hea, Membership Committee.
 - P. S. Wilcox, Factory Safety Organization Committee.
 - T. H. Yawger, Public Accidents Committee.
 - Dr. E. H. Wolcott, Physical Examination Committee.
 - L. B. Somerby, Standardization of Safeguards Committee.
- Later the Chairmen appointed their committees, as follows:

I. PROGRAM.

1. E. M. Lowenthal, Chairman.
2. P. W. Turner.
3. Edgar Shantz.
4. J. C. Parker.
5. George E. Woodcock.

II. MEMBERSHIP.

1. W. J. O'Hea, Chairman.
2. H. O. Alderman.

Third Safety Congress

3. W. D. Hayes.
4. G. T. Amsden.
5. Dr. Frank B. Baldwin.

III. FACTORY SAFETY ORGANIZATION.

1. P. S. Wilcox, Chairman.
2. H. E. Akerly.
3. Fred Erbe.
4. Phillip Will.
5. R. V. Parker.

IV. PHYSICAL EXAMINATION COMMITTEE.

1. Dr. E. H. Wolcott, Chairman.
2. W. R. McCann.
3. F. H. Swan.
4. James Barnes.
5. F. W. Lovejoy.
6. Jacob B. Magin.
7. Dr. Harold Baker.

V. PUBLIC ACCIDENTS.

1. T. H. Yawger, Chairman.
2. R. E. McDougall.
3. J. W. Bates.
4. T. M. Crandall.
- 5.

VI. STANDARDIZATION OF SAFEGUARDS.

1. L. B. Somerby, Chairman.
2. H. E. Akerly.
3. E. Kandler.
4. A. E. Veness.
5. J. C. Parker.

VII. SAFETY WORK IN SCHOOLS.

1. Dr. John F. Forbes, Chairman.
- 2.
- 3.
- 4.
- 5.

"Mr. T. H. Yawger, Chairman of the Public Accidents Committee, had not at this writing decided upon the fifth man for his committee, but has someone in mind.

"Through press of business, caused by vacations, Dr. John F. Forbes, Chairman of the Committee for Safety Work in Schools, has not yet appointed his committee, but will in a short time.

"The Physical Examination Committee was the first of the committees to hold a meeting, which was opened at 12:30 p. m. in the rooms of the Rochester Chamber of Commerce, Tuesday, June 9th, 1914. Plans for the future were discussed and it was decided to devote the efforts of the committee first to the drafting of a blank for physical examination of employees and applicants for employment in Rochester factories and business houses. A Subcommittee of three on the Physical Examination Blank was appointed, as follows: Messrs. W. Roy McCanne, F. H. Swan and Dr. Harold H. Baker. Dr. Baker was in charge at the time, of the system of physical examination of employees at the Bausch & Lomb Optical Company, and was in a position to and did give the committee some valuable advice.

"From the elaborate system used by the leading Rochester concerns employing thousands of men, a simple blank which may be modified to meet the needs of individual factories, in the opinion of the committee, was drafted, submitted to and ratified by the Executive Committee. A copy of the blank is enclosed. Five thousand were ordered printed and three of each sent to members of the Rochester Chamber Local No. 9 with the quotation of sixty cents per hundred blanks, which covers all expenses. These sample copies were sent out on July 14th with a letter explaining them and offering the advice of the Physical Examination Committee to those members of the Local Council who introduce the system. No inquiries have as yet been received.

"Before leaving the work of this committee it might be well to mention that during the balance of the summer months Dr. E. H. Wolcott and his associates are not planning to be active, but upon the approach of Fall they plan to interest department stores and hotel men of Rochester in the physical examination of their employees.

"The second committee to hold its meeting was the Standardization of Safeguards Committee, L. B. Somerby, Chairman. In considering future plans the idea of collecting pamphlets, plans and other

literature descriptive of safeguards was discussed but abandoned because of inadequate library and filing facilities. It was felt that such a collection would increase to such a size eventually as to require greater space than was available at the Chamber of Commerce to properly preserve it. It was, therefore, agreed to compile a classified list of sources from which descriptive literature about safeguards might be obtained by writing. By means of such a list an employer applying to the Chamber of Commerce for information about a safeguard could be quickly given the name of the manufacturer whose product met the legal requirements of the Industrial Board. The committee decided that in compiling its list it would be best to take up individual guards separately rather than the entire field at once, and members were requested to collect such names of manufacturers as they could obtain in the interval between committee meetings.

"The Factory Safety Organization Committee, P. S. Wilcox, Chairman, was the third to hold a meeting, which opened at 12:30 p. m. Friday, June 26th, 1914, in the rooms of the Rochester Chamber of Commerce. As a nucleus for the committee to build upon it was decided after some discussion to adapt plans to factories according to their size and number employed rather than to the class of industry. Chairman Wilcox requested each member of the committee to draw up charts of safety organization which might be applied to three grades of factories, namely, factories employing a great number, those employing a small number and those employing an intermediate number; such charts to be considered at the next meeting of the committee, and, if approved, presented to the Executive Committee for their ratification, and later to be brought to the attention of the membership of the Local Council.

"No other committees of the Rochester Chamber Local No. 9 have as yet held meetings, but Chairman W. J. O'Hea of the Membership Committee has called a meeting of his committee for 12:30 o'clock, Monday, July 20th, in the rooms of the Chamber of Commerce.

"During the summer months many activities are not planned for the Rochester Chamber Local No. 9, but it is hoped to get the committee work started. However, along about the first of September President Robertson hopes to start the ball rolling with a Safety Massmeeting, at which meeting pictures and lectures by prominent

safety experts and engineers will serve as attractions. The Rochester Chamber Local No. 9 is pledged to three accident prevention campaigns in the next year—Industrial, Public and Home.

"Among the suggested activities was that of Mr. Barnes that an Employers' Exchange be established to receive from members of the Local Council slogans and other copy for printing on pay envelopes, the Exchange to take the orders for such envelopes.

"Mr. Barnes also suggested a Central Clearing House where records showing the latest physical conditions of applicants for employment might be more economically kept and made for the convenience of employers at large."

SAN FRANCISCO LOCAL NO. 15, JUNE 30, 1914.

SECRETARY'S REPORT.

The Secretary begs to submit the following report:

The number of members in the San Francisco Local Council No. 15 in the National Council for Industrial Safety on this date is ten.

This organization has been in effect only since June 1st, 1914, but so far one public meeting has been held. Several meetings of the Executive Committee have been held, however, to discuss ways and means of increasing the membership of the National Council for Industrial Safety, as well as of the Local Council.

By-laws were duly adopted.

So far, owing to our small membership, no committees as yet have been appointed, but all members are working actively as one large committee toward promoting interest in the National Council.

(Signed.)

A. C. TREGO,

Sec.-Treas. Local Council No. 15, N. C. I. S.

YOUNGSTOWN LOCAL COUNCIL.

Agreeably with Section IV of Article XI of the Constitution and By-Laws of the National Council for Industrial Safety, I have the pleasure to present herewith a brief report of the organization and

work performed by the Mahoning and Shenango (Youngstown) Local Council No. 2 of Youngstown, Ohio.

Preliminary steps looking to the organization of a local "Safety First" Association in Youngstown and surrounding territory were taken in August, 1912, and at the second annual meeting of the National Council for Industrial Safety held in New York in September, 1913, it was decided to make this organization a local Council of the National organization. To this end a call was issued to various manufacturing concerns in the Mahoning and Shenango valleys to meet at the office of Mr. Dudley R. Kennedy, in Youngstown, Ohio, on October 3rd, 1913. There were present at this meeting the following persons:

D. R. Kennedy, Martin F. Dillon, Norwan W. Kistler and J. M. Woltz of the Youngstown Sheet & Tube Co.

Ed. J. Russert and E. R. Rose of the Republic Iron & Steel Co.

Chas. Rice of the Republic Rubber Co.

R. B. Bell, General Fire-Proofing Co.

F. J. Warnock, Mahoning & Shenango Valley R. R. Co.

Walter Greenwood, Carnegie Steel Co.

G. E. Zeck, Youngstown Iron & Steel Co.

It was the sense of those present that a local branch of the National Council for Industrial Safety be organized, and that we affiliate with the National Council for Industrial Safety, and the following officers were chosen:

D. R. Kennedy, President.

F. J. Warnock, Vice-President.

E. R. Rose, Treasurer.

J. M. Woltz, Secretary.

The President appointed Messrs. Russert, Rose, Dillon and Warnock, a Committee to draft a set of By-Laws. This Committee reported at a meeting held October 14th, 1913, at which time their report was adopted. At this meeting was held the first dinner of the Council, and a number of persons who had not attended the first meeting were present. The following Committees were appointed by the President:

EXECUTIVE COMMITTEE.

D. R. Kennedy, Chairman.
R. H. Bell.
F. S. Patterson.
E. J. Russert.

FINANCE.

E. R. Rose, Chairman.
C. A. Rice.
N. W. Kistler.

PUBLICITY.

F. J. Warnock, Chairman.
L. R. Rankin.
G. T. Rigby.

ARRANGEMENT

E. J. Russert, Chairman.
E. R. Rose.
F. J. Warnock.
G. G. Evans.
M. F. Dillon.

The Council began an active campaign in the daily press of the city, and the two daily papers devoted much space to Safety work. One paper held a contest for school children, awarding a prize for the best paper on Safety. Talks were delivered by several of the members before local organizations, and the Automobile Club was urged to take up Safety work, which they have done.

The next meeting was held Dec. 2nd, 1913, at the Y. M. C. A. Auditorium, at which there was an attendance of over 100. The next meeting was held January 8th, 1914, and the next on January 20th, 1914. At this meeting it was suggested that Mr. Brownell of Chicago be brought to Youngstown for a series of talks on "Safety First." Approval of the matter was left in the hands of the President, and later the Street Car Company paid the expenses of Mr. Brownell, who delivered a number of talks in the city.

Meetings were thereafter held on

March 3rd, 1914.

May 19th, 1914.

March 17th, 1914.

June 16th, 1914.

April 21st, 1914.

The last meeting was a dinner at which there was present a

member of the Industrial Commission of Ohio, who has under him the Accident Prevention Section; also a member of the Ohio Commission for the Blind. The latter gave a very interesting illustrated talk on the prevention of eye diseases.

The following persons are members of the Local Council:

D. R. Kennedy, The Youngstown Sheet & Tube Co.

N. W. Kistler, The Youngstown Sheet & Tube Co.

M. F. Dillon, The Youngstown Sheet & Tube Co.

J. M. Woltz, The Youngstown Sheet & Tube Co.

J. A. Latimer, The Youngstown Sheet & Tube Co.

J. F. King, The Youngstown Sheet & Tube Co.

E. J. Russert, The Republic Iron & Steel Co., Youngstown, Ohio.

E. R. Rose, The Republic Iron & Steel Co., Youngstown, Ohio.

S. Butler, The Republic Iron & Steel Co., Youngstown, Ohio.

N. G. Brayer, National Malleable Castings Co., Sharon, Pa.

Walter Greenwood, Ohio Works, Carnegie Steel Co., Youngstown, Ohio.

Lewis R. Rankin, Carnegie Steel Co., Farrell, Pa.

Alex Best, The Wm. B. Pollock Co., Youngstown, Ohio.

F. H. Smith, Trussed Concrete Steel Co., Youngstown, Ohio.

Geo. F. Sparks, Trussed Concrete Steel Co., Youngstown, Ohio.

F. S. Patterson, Pennsylvania R. R. Co., New Castle, Pa.

C. A. Rice, Republic Rubber Co., Youngstown, Ohio.

W. Dunn, Republic Rubber Co., Youngstown, Ohio.

Geo. Rigby, Carnegie Steel Co., New Castle, Pa.

R. M. Bell, General Fireproofing Co., Youngstown, Ohio.

G. G. Evans, Brier Hill Steel Co., Youngstown, Ohio.

F. J. Warnock, Mahoning & Shenango Valley R. R. Co., Youngstown, Ohio.

L. G. Ebinger, United Engineering & Foundry Co., Youngstown, Ohio.

J. Reid Evans, Sharon Steel Hoop Co., Sharon, Pa.

L. E. Taylor, Wm. Todd Co., Youngstown, Ohio.

Noble Jones, Sharon Steel Hoop Co., Sharon, Pa.

J. B. Stewart, Jr., Mahoning & Shenango Valley R. R. Co., Youngstown, Ohio.

J. H. Hughes, Trumbull Steel Co., Warren, Ohio.

Very respectfully,

J. M. WOLTZ,
Secretary Local No. 2.

THE PRESIDENT: Gentlemen, the hour of adjournment has arrived.

MR. R. C. RICHARDS (Chairman, Central Safety Committee, Chicago & North Western Ry. Co.): Before you announce adjournment of the Business Session, I have been requested—and it is with great pleasure I comply with the request—that we adopt a vote of thanks to our President. This morning we heard something in his address about the wonderfully effective work of our Secretary and Treasurer. But, with his usual modesty, our President forgot to say anything about himself. Now all of we men who have been on the Executive Committee of the National Council realize perhaps to a small degree (we cannot entirely realize) how much Rob Campbell has done. He has practically devoted one-half his time to the duties of his office, and in building up the National Council without thought or idea of compensation or even thanks. And I think it would be a most fitting thing that now that we are assembled here in our first Annual Meeting that we not only express our thanks, but our gratitude to the man who has made the National Council possible, and I therefore move you that we adopt such a motion.

DOCTOR PATTERSON: I second the motion.

MR. RICHARDS: The motion is made and seconded. I suggest we adopt it by a rising vote. All in favor will designate by rising. The motion was carried by every one rising.

THE PRESIDENT: I am not going to try to tell you that I thank you for your kindness, or that I appreciate it. I think you all probably know that I do, and I will ask you just to let it go at that.

Before the adjournment, I think we should call attention to the fact that there will be a theater party tomorrow evening, that the tickets are on sale at the Information Bureau, and that the Committee would like to have you make your reservations for the tickets as promptly as possible.

At 2:00 o'clock this afternoon the further session of the Congress for addresses and discussion of papers that have been presented will be open. You have the program of those formal Sessions before you. I think our Program Committee is to be complimented

upon the ability and the talent which it has provided for us at all these sessions.

MR. H. M. WILSON: Before adjournment, did I not understand we were to have a very brief adjourned business session at two o'clock to hear the report of the tellers?

THE PRESIDENT: That is true, and I thank you for the correction. There will be a brief adjourned business session at two o'clock to hear the report. It might be that if you would bear with us a minute or two—if any of you have suggestions that you wish to offer for the consideration of the Board of Directors at its meeting at five o'clock this afternoon—we might probably have them better this afternoon. They may take only a minute or two, and, as has been suggested, there may be some very valuable suggestions come from the floor that the Directors themselves may not think of. Do I hear any? If not, the Business Session will stand adjourned until two o'clock, to be thereupon adjourned until eight. Remember that the ladies who are with you will have an entertainment provided for them this evening so that you can leave them safely.

Adjournment was then taken until 2:00 P. M.

GOVERNMENTAL SESSION.

Tuesday, October 13, 1914, 2 to 3:30 P. M.

The meeting was called to order at 2:00 P. M. by President Campbell.

THE PRESIDENT: While the members are assembling we will listen to the report of the Inspectors of Election.

MR. J. A. ROBERTSON: Mr. President, we are pleased to report that there are several quorums present. We have checked up over 400 proxies, representing 4,000 votes, and there are 326 representatives personally present.

THE PRESIDENT: Do you announce the recording of the vote for the gentlemen as announced?

MR. ROBERTSON: Yes!

At the conclusion of the formal Session this afternoon at the hour of five o'clock, and preceding the presentation of the demonstration of the United States Bureau of Mines rescue car crew, there will be a meeting of the Board of Directors, including the old Directors, and those newly elected at this meeting. It is my impression that this meeting is to be held in the east room, so-called, which is the corner room on the mezzanine floor. In the interim I will just simply announce the fact that at five o'clock if inquiry is made at the information desk, the room in which we are to meet will be disclosed.

All of the directors are requested to forego, if they will, the privilege of witnessing this demonstration and the moving pictures that are to follow, and to meet for the purpose of electing an Executive Committee, amending the by-laws and such other business as may be brought before the meeting.

It is a great privilege to many of us to hear some of the speakers who are going to address you this afternoon, tomorrow and Thursday. We really feel that we have a very excellent program for your consideration. It is our aim, in view of the fact that the programs are somewhat lengthy, to endeavor to carry them forward on schedule time. Each of the principal addresses has been limited, and request

has been made upon the speakers to limit them to fifteen minutes. Each of those who participate in the discussion is requested to limit his discussion to ten minutes—those who are formally on the program for discussion. If there is any general discussion that may be permitted if time allows; but that should be limited to two or three minutes, if possible. Arrangements have been made with the several chairmen of the different sessions whereby at the conclusion of thirteen minutes and eight minutes, according to whether it be principal addresses or discussions, the green light on the desk will be turned on. That will constitute a warning to the speaker that his time is about to expire. If the speaker has not gotten to that stage in his address where he can consistently conclude it, he is requested to condense the remainder of his remarks to the end that when a red light is flashed on him at the ten and fifteen minutes mark, he will have reached a point where he may conclude. If these speeches are thus curtailed, they will be reproduced in their entirety in the Proceedings of the Congress when printed, and in the press, so that in this way we shall ultimately get the benefit of the addresses that will have to be kept out. Only by such means may we hope to carry the program through on schedule time, without prolonging it until too late in the evening. We are accordingly asking the speakers and the Chairmen of the various Sessions to conform to these regulations.

The first of our Sessions is the Governmental Session—the topics of which are before you on the printed program.

It is very fitting indeed, it seems to me, that for such governmental sessions, we should be able to have the right gentleman to preside over it, for there is no one in the Government service so capable of presiding over a body, or so fully equipped for speaking on questions that pertain to that point of our work. I therefore take pleasure in presenting to you (many of you know him without presentation) Doctor Royal Meeker, Commissioner of Labor Statistics, U. S. Dept. of Labor, Washington, D. C., who will preside over the governmental session and who will deliver the opening address. Doctor Meeker. (Applause.)

(Doctor Meeker took the chair.)

THE CHAIRMAN: Ladies and Gentlemen: I am somewhat confused about the flashing of the green and red lights myself. It seems that I am required to umpire my own baseball game.

I want to talk for a few minutes about statistics as a means of reducing preventable accidents. I shall try to keep within the fifteen minute rule.

Statistical reports can reduce accidents and have reduced accidents. I mean just what I say. Statistical reports of accidents have the effect of calling attention to conditions that are not recognized by employers, much less by employees until their attention is directed to such conditions by statistics. If you want any proof of that I can give it to you in quantities. The statistical reports of the Federal Bureau of Labor Statistics have had just that influence. A few days ago I learned that the use of lead paints in the painting of cars in certain car shops had been done away with because the statistical reports of the Federal Bureau showed the dangers from lead poisoning in the careless use of paints containing lead. In one other instance a manufacturer of paint was utterly horrified when confronted with the statistical proof of what was going on in his shop. As a result of the report of the Bureau of Labor Statistics he went through his shops, reformed his methods of protection, cut down the illness rate from lead poisoning, a thing that may be regarded either as an accident or an illness, according to the point of view. Now, those are just two instances; I could cite many instances.

Statistics are not the unprofitable thing that many suppose. I think the first record we have of a census is contained, if I remember my scripture correctly, in II Samuel, 24, beginning with the first verse and going through the chapter. How many here know what is contained in II Samuel, 24? I see no eager response to my inquiry. I suppose you have forgotten your Sunday school lessons. In II Samuel, 24, is recorded David's attempt to enumerate the people of Israel. It created a great deal of disturbance, as you will remember. It is not quite clear whether Jehovah was entirely in accord with this scheme of enumerating the Israelites. Certainly among the people represented by Joab, David's great general, there was not great sympathy with the taking of a census. I suppose they at that time were struggling with the problems of statistics that we wrestled with yesterday. I suppose so, because the reading of the Scriptures would seem to indicate they were exceedingly suspicious of this statistical business.

Now, I want if I can, to allay, as far as I can the suspicion which

attaches to statistics. The compilation of statistics is just as productive as is the rolling of steel rails or the manufacture of raw cotton into clothing. I want every manufacturer that I have business dealings with to understand that I am not attempting to gather statistical data just for the pleasure of gathering it. There is a purpose and I want every manufacturer that I meet with to understand the purpose that I have in mind. And I think when he does understand that purpose I will get his hearty co-operation.

Now, if we are going to have the right kind of statistics, that will result in preventing preventable accidents, reducing industrial risks, abrogating entirely the industrial risks, in some instances, we must get together. There is need for co-operation among governmental agencies.

A good deal of room is given to co-operation on this program. It is co-operation between governmental agencies and manufacturers for the most part as I have read it. There is at least as much necessity for co-operation among governmental agencies themselves. We must get governmental agencies to work together. I regard that as my principal job. There must be first of all, co-operation among the various Federal agencies and Federal bureaus. I trust that the tracks have been laid in order to secure the necessary co-operation between the Bureau of Labor Statistics and the Bureau of Mines. I trust that everything has been made ready for the co-operation of my Bureau and the Public Health Service of the United States, and I trust that so far as the work of the Bureau of Labor Statistics impinges upon the work of the Bureau of Education that hearty co-operation will be found in evidence. And so throughout the whole Federal Government. I trust that agencies instead of working independently or even at cross purposes, henceforth will work in harmony, work according to a program not made up on the spur of the moment, but a carefully thought out program with definite objects in view.

Well, that is only one thing. Our Government is a curious government. I have not time here to enter upon a dissertation upon the organization of a Federal State, or whether there is such a thing as a Federal State. We do know that the States have large powers, large functions. For example, the Bureau of Labor Statistics has not much power to command information. I am glad it does not possess that power. I would rather get information the way we get

it by co-operation with the plants and the co-operation of individuals from whom we obtain information, rather than to go to them with a revolver and a club and a sword and a gun with a bayonet on it and demand the information at the point of all these weapons put in our hands by law. We have but little power. The State bureaus and departments of labor have much more power than we have.

Now it is absolutely necessary, as I see it, that the States get together on this subject. We ought not to have one kind of statistics in New York and another variety in New Jersey and another variety in Massachusetts and still another in Pennsylvania, and so on, until we have fifty-seven varieties and then some. The States must get together. I am willing and desirous to serve as the agency by means of which the various States will get together in the matter of collecting and tabulating uniform and comparable statistics. For that reason I took it upon myself to call a conference of State agencies. Several conferences of that kind have met. I took it upon myself to call a joint conference, which met yesterday at ten o'clock, running through until midnight. The object of the conference was to fight out mooted questions, to obtain agreement as far as it was possible upon the minimum requirements that we could ask in gathering statistical information as to accidents. There is need that we should put our statistics upon a comparable basis. There is need that we should be able to compare the accident and illness statistics in Minnesota with the accident and illness statistics in Illinois, in California, or in any other State of the Union. In order that we should have these statistics upon an accurately comparable basis, we must agree upon the definition of a reportable accident. What is a reportable accident? The conference which conferred strenuously and long yesterday did agree upon such a definition. We now have a standard definition of a reportable accident.

The States must agree upon the time of reporting, and the conference aforementioned did agree upon the time within the limits of which reports of accidents must be made.

The States must agree upon the form in which accident reports shall be made. The conference did agree upon the form, the first form for the reporting of accidents.

We tried to agree on what we would do with the accidents not included or not brought to a termination within the period set for

the first reporting of accidents. We did not succeed in agreeing upon that, but that is something that we must agree upon before our statistics will be what they should be, comparable throughout the whole country. We must, if we are going to have comparable statistics, agree upon the unit of exposure, and we did not agree upon what was the ideal in counting exposure, namely, the man hour.

And then, in order to make our statistics convenient to handle, we must agree upon the unit which we will adopt as the measure of risk. The unit, which is in use now, let me say, in Germany and Austria, is the 300 day year, ten hours per day. That has been suggested by two international committees, one the International Permanent Committee on Social Insurance, the other a committee appointed by the International Institute of Statistics. They have agreed that accidents should be reported on the basis of 10,000 three hundred day workers. That has not anything to do with suggesting that ten hours is the ideal working day, not at all. Nor has it anything to do with suggesting that 300 days is the ideal number of days that a place ought to run. Nothing of the kind. It is adopted purely for statistical purposes in order to get our accident statistics within limits that we can handle and tabulate. I do not need to go into that discussion any further.

These agreements that I have mentioned have been arrived at. If we can put these agreements into force throughout the United States, then we shall have statistics that will mean something, so that we can compare accident reports in different industries in different States, and have something that we can rely upon.

There are many many things that we have not touched upon. We have not got to them. I regard it, as I said before, as my chief business to secure this co-operation of governmental agencies.

Now I think I have spoken two minutes beyond the fifteen minutes, for which I humbly apologize. I have not got through speaking, I simply quit.

The first address on the program is an address entitled "Co-operation for Safety by Government and Industries," by Mr. H. M. Wilson, engineer in chief of the Bureau of Mines, Pittsburgh. Mr. Wilson is also Secretary of the American Mine Safety Association, a Director and a member of the Executive Committee of the National Council. He was also a member of the Organization Committee which grew out of the First Co-operative Conference,

held in Milwaukee, in February, 1912. Mr. Wilson has also co-operated in the formation of the Pittsburgh Local Council of the National Council, and has made a special contribution to the Third Annual Safety Congress by arranging to have the Mine Rescue Car of United States Bureau of Mines on exhibition at the La Salle street depot, during the three days the Congress will be in Session. Mr. Wilson. (Applause.)

Mr. H. M. WILSON: Mr. Chairman and members and guests of the convention: I am delighted that the chairman had my pedigree so pat. It encourages me to impose on his red and green lights for a few minutes, which I am tempted to do because of the biblical introduction he gave to his audience. It reminded me of a story that I thought I would work off on some of you this afternoon when we give you a brief first-aid demonstration—but I would rather try it on you now. Maybe I would rather try it on the other fellow then, but, after all, being biblical it is appropriate, and the chairman cannot count this time.

A doctor up in the Scranton district who had been very much interested in teaching the miners about first aid had been telling his wife about it, and he said, "Do you know when first aid was mentioned in the bible?" She said, "I don't. I don't think it was ever mentioned in the bible." "Oh, yes it was. It was on an occasion when Adam was not feeling well. He had been injured he thought and he appealed to God for aid, and God found an unnecessary rib and he removed it and gave him a wife." That story struck his son as rather a good one. He was very much impressed with it. He had never heard about Adam and his wife. He thought about it a good deal. Next morning when he came downstairs he was complaining a good deal about not feeling well and did not want to go to school and his father said to him, "What is the matter, George?" "Oh, I don't feel well, dad, I feel pretty badly." "Well, why don't you feel well?" "Well, I have got a bad pain, and I don't think I ought to go to school with such a bad pain." "Well, what's the matter with you?" "I have an awful pain. I am afraid I am going to have a wife. My ribs hurt."

Knowing that I was to be limited to fifteen minutes, I thought it best to reduce my remarks to writing. First because it will help you out and second because it may economize in time.

It is very appropriate that the conference should be opened by a Governmental Session, because as you all know the Government has been the leader in this movement for Safety, because of what it has done toward the Safety of the people dating away back before any of us not concerned in governmental matters had thought of Safety. The legislation providing lighthouse service to protect mariners, the life saving service, the Interstate Commerce Commission and other Governmental activities in this regard, not to mention that which we all know has had much to do with safety and security and health, the Public Health Service, are among the earlier of the agencies adopted by the Government with a view to increasing safety and health.

Americans are a wasteful people. We are as wasteful of life as of property. Less than a decade ago we were aroused to a knowledge of the extravagant waste in the utilization of our natural resources and the so-called propaganda for "conservation" then undertaken has been instrumental, through legislation and through co-operation between the Federal and State Governments, industrial enterprise and individuals, in remodeling our entire attitude toward the natural resources of the country and the methods employed for their use and protection.

Growing out of this movement, and gathering impetus only within the last half-decade, has been that more humane and even more important movement for the conservation of our human resources, the protection of life, through so-called "safety" measures.

Until within the recent past we have been wantonly regardless of the potential value of human life and limb. We have felt that the settlement of a modest damage suit was adequate compensation to the injured. There was a time within our generation when the life of a horse, or the value of a few sacks of grain, were rated higher than the life of a human being. More recently, shyster lawyers and corporation attorneys have thriven on the gamble as to what proportion of a meagre indemnity suit should be divided between them and the injured.

It is to the credit of the nation that, though tardily, it has entered vigorously upon the correction of these evils. Workmen's compensation acts, the creation of federal and state boards for the consideration of industrial safety and accident prevention, and the equally vigorous and progressive attitude adopted by many of the

leading industrial corporations have accumulated a mass of legislation, rules and practices within the past few years so great and as yet so undigested that few have had time or opportunity to assimilate them. As set forth in the admirable pamphlet on safety organization recently issued by the president of your Council, while the subject could naturally be divided into two, or rather three, branches—namely, organization, safeguarding and education—the accomplishment of any constructive work toward the end sought can be attained only through co-operation; and he, as others, lays stress on the vital importance of co-operation between employer and workman in the devising of proper safety methods and rules; and in the enforcement of law, the need of co-operation between the federal and state governments and the various industries—manufacture, transportation, mining—and the public at large.

The federal and state governments have not been behind private industry in considering individual, industrial or public safety. Among the early government measures to this end have been those for the protection of shipping, including navigation laws, the establishment of light-houses to guard shipping approaching an inhospitable coast, the life-saving service for the protection of mariners cast on such coasts, the application of safety appliances to railway transportation through the Interstate Commerce Commission, the investigations of the Department of Labor, and the operations of the Public Health Service and the United States Bureau of Mines.

The States, many years ago, were prompt to consider the safety of those men who go down into the earth and dig the coal that furnishes us heat, light and power, and the iron, copper and other metals used in our industries. The statute books of mining States are full of laws, as are the state mining departments of regulations, creating personnel for inspecting mines, providing safety measures and otherwise safeguarding the workers in that branch of industry.

Though tardily, yet vigorously, those other great branches of industry—the steel mills and other metallurgical establishments—have recently made provision for safeguarding their employees. State and national legislation has been enacted for the consideration of the safety of miscellaneous industrial workers. Finally, by no means the least element in this progressive movement which has been rapidly gaining strength with time has been the organization of the National Council for Industrial Safety, the immediate and

most useful field for whose endeavors is that great body of miscellaneous industrial workers and that great unprotected individual public heretofore not considered. That there is not only room for but absolute need of co-operation between federal and state governments and the industries in carrying forward this movement is increasingly evident.

In order to indicate my conception of the answer to the topic assigned me as to how government agencies may best co-operate with manufacturers, transportation companies and others, I must ask you to pardon me if I refer too frequently to the answer as set forth in the operations of the Federal Bureau of Mines, with which I am more familiar than with the work of other government agencies along these lines.

Under our administrative and political organization the Federal Government has no police power and may not, therefore, enact laws or procure enforcement of such laws concerning industrial or individual safety excepting in so far as interstate relations are involved. In these matters the State only may legislate with the prospects of enforcing its rules. Realizing this condition, we may get our best example of the form of co-operation now under consideration from the mining industry rather than from the transportation or shipping industries, for the reason that it is less subject to interstate supervision.

For the mining industry there has been blazed a way toward increasing safety, and especially toward government and individual co-operation in procuring such safety, in the large mass of legislation and precedent created through a considerable period of years. Moreover, the hazards of the mining industry are so varied and so different from those of manufacturing and other surface industries that they may be considered as a separate subject and those things accomplished for the mining industry may be set opposite all of the surface industries in any general review of the subject; for, as you know, there enters in the mining industry those hazards due to the unseen dangers inherent in inflammable gas and coal dust, in the use of artificial illumination, the use of explosives which weaken the walls and roof of the mines and thus encourage their subsequent fall, the large amount of inflammable and spontaneously-combustible material used in timbering the mines, the vast amount of temporarily-placed railway trackage and other haulage machinery, and

in a dozen other hazards to life, limb and health rarely encountered in surface transportation or manufacturing industries.

The Federal Government, though the last to enter the arena, naturally takes first place in performance because of the nationwide scope of its activities and the much greater resources at its command than at the command of any one State or industry. It has been found that the place of the Federal Government in co-operation for safety in mining, and this I believe will also prove true in other industries, is concerned with investigation, experimentation, tests and education through the dissemination of information; for, as a rule, the test of any appliance or condition as to safety or otherwise will be as applicable in one portion of the United States as in another, as will the propriety of any remedial legislation or rules; and, finally, the national government can more efficiently and cheaply disseminate among all of the state governments and all of the people information of educative value than can the separate States or individual corporations or industries.

The part of the States in this co-operation should be to refer to the Federal Government for impartial test and recommendation those appliances or practices which are of general application, because its dictum will be more impersonal, of less local application, and will be founded on a wider field of experience. Based on the results of investigations, tests and other information disseminated by the Federal Government, the States are in a position to enact legislation providing regulations and rules to govern individual and industrial safety within their confines, and to ascertain by inspection whether or no those rules are being properly considered. Moreover, the State is in the best position to make local application of those general principles which the Government may evolve. On the other hand, the State should confer freely with representatives of labor and industry, since through the co-operation of those directly concerned the best and most acceptable laws and orders may surely be evolved.

The part of industry and labor in this co-operation is to apply to their uses, for the protection of their workers, those mechanical or other safeguards, those precepts and educational methods, recommended by the Federal Government on the basis of the needs of the whole industry in all parts of the country, to apply the specific rules and principles laid down in state legislation and regulation,

and direct, through their officers and employees, compliance with these rules; to call the attention of the individual to the importance of his co-operation in their enforcement. On the other hand, labor and industry, jointly and separately, should volunteer their aid and offer their co-operation in the drafting of legislation or orders designed to increase the safety of their workers.

All of this machinery has been in operation for the mining industry for a period of five years, and for railway transportation, in part, for a much longer period, though under somewhat different conditions to those above outlined. For example, the question may be raised in a mining district as to whether, under the conditions there existing, gasoline or electric motive power may safely be used in dusty or gaseous mines; or whether certain electrical equipment of given voltage may be safely used; or whether open lights or certain types of explosives are reasonably safe; or whether certain practices which may weaken the wall or roof are safe. It would be a waste of time and money for the individual or for the State to attempt to solve the problem, but the Federal Bureau of Mines may test safety lamps to determine under what conditions, wherever found, a certain type of lamp may be safely used; and likewise for electric lamps, electric power, gasoline motors, methods of timbering and other mining practices. The state governments call upon the Federal Bureau to conduct such tests, and based upon the results, after advising with the industry, enact legislation or make regulations specifically applicable to the conditions within their borders. And, finally, each mining company, through its engineers, superintendents or other officials, and after conference with state officials and its workers, posts rules and gives personal instruction to its employees regarding the appliances or practices best suited to the specific operation concerned.

There has thus been created in this regard an intimate co-operation constantly in operation between the Federal Bureau of Mines, state mining departments and the mining industry, which has had a wonderful effect in fixing public sentiment on the needs of that industry as regards safety—which also means, in some measure, efficiency and economy in operation. Similarly, the Federal Government has found it practicable to conduct certain educational work regarding safety in relation to mining through its co-operation with state inspectors and mine operators, by instruction in first aid to

the injured and in modern rescue methods, by the conduct of rescue operations in time of disasters, and, finally, through lectures, the issuance of pamphlets and circulars, and personal contact with employees by its mine rescue cars and its mine rescue stations, to the end that those principles governing safety in mining which have been elaborated by the co-operation above outlined are brought home to and explained directly for the benefit of all grades of employees in the industry.

There is ample room for the extension of a similar system of co-operation to those other industries than mining which have heretofore been neglected. The metallurgical industries, including especially the great steel, copper and other metal working establishments, are subject to the same federal oversight and assistance through the Bureau of Mines that the Bureau has heretofore been extending largely to the mining industry, but the thousand and one other industries—lumbering, miscellaneous manufactures, laundry, urban transportation, etc.—should be provided for through some similar method of governmental and industrial co-operation, the machinery for which has already in part been created in some States, as those of Wisconsin and Pennsylvania in particular, through the establishment of non-political state industrial departments.

It seems to me that the greatest field of immediate usefulness for such a splendid organization as is the National Council for Industrial Safety lies in the cultivation of those untilled fields. It is not too soon to get down to the hard pan of analyzing and teaching regarding the human waste which has ever been a national disgrace. Not until the moral sense of the people has been properly aroused and a new public opinion is arrayed behind reasonable laws can we hope for material improvement in the miscellaneous industries and occupations. Laws in themselves can be of no value to this end if they are not based on intelligent investigation and test and are not supported by public sentiment. The average intelligent citizen of the United States doubtless appreciates in a general way that accidents are too numerous and are often unnecessary, but rarely does he realize his own personal responsibility and his duty to the city, the state and the nation in this regard.

To paraphrase a statement of ex-President William H. Taft, in regard to conservation and the fire waste: The arousing of emotions on a subject like this, which has only dim outlines in the minds of

the people affected, ceases after a while to be useful, and this whole movement for safety will, if promoted solely on the lines of propaganda, die for want of practical direction. The people should be shown exactly what is needed in order that they may know their part in the splendid work of co-operating for greater individual, industrial and public safety.

CHAIRMAN MEEKER: The next speaker will be Doctor John Price Jackson, Commissioner of the Department of Labor and Industry, Harrisburg, Pa., who will address us on SAFETY FIRST IN EUROPE.

DR. JACKSON'S ADDRESS.

DR. JACKSON: Considering the high purposes for which you are gathered here, you will pardon me, I trust, if I digress a moment from the subject assigned me. I do this for the purpose of inviting you to attend the second annual safety welfare and efficiency conference to be held in Pennsylvania, at the State Capitol in Harrisburg, on November 17th, 18th and 19th of this year. This conference is held under the auspices of the Pennsylvania Department of Labor and Industry with the aid of the Pennsylvania Engineer's Society. The first conference last fall was productive of much good and was attended by approximately two thousand persons, most of whom represented important labor and industrial interests in the Commonwealth. In connection with the conference is an unusually perfect exposition of safety and welfare appliances and other similar exhibits installed by manufacturers and others interested in a large hall in the city.

This conference, even more than the one last year, will undoubtedly prove to be an important influence in promoting sane and reasonable safety and welfare practice and in improving the avenues leading to industrial prosperity.

You are not only invited but urged to come and lend a hand in this great work. You should do this, not only for the intrinsic value of the service, but also as a measure of brotherly reciprocal helpfulness, since, during the past year, Pennsylvania has pre-eminently promoted within her borders the purposes and plans of this great Council before which I stand.

Before starting to Europe as a delegate to some of the great

labor welfare conventions which were to have been held this summer and to study the English, German and French development in labor legislation and practices, I obtained various letters of introduction. Among these was a letter from Governor Tener of Pennsylvania, who spoke at the last annual Conference of the National Council for Industrial Safety and who has shown large interest in the promotion of industrial welfare; another from Dr. F. D. Patterson of Philadelphia, one of the National Council's most competent and effective members; another from Dr. John B. Andrews, Secretary of the National Association for Labor Legislation; and others. These letters proved of valuable service and I desire to take this first public opportunity to make my sincere acknowledgments to those who rendered me the favors. I wish also to express my warm appreciation of the activities of the J. G. Brill Company in my behalf, extended at much cost in time and money.

My party left New York on July 21st and arrived in Rotterdam on the 31st of July. From that city we proceeded direct to Berlin, arriving there in the early morning of August 1st. It was six o'clock in the afternoon of this day that the Kaiser's ultimatums to France and Russia expired without reply from these powers. As a result, the orders for mobilization of the German troops went into effect. This being the case, I may be pardoned for saying a word or two about the magnificent "unguarded," military machine which we saw and for exhibiting a little of the evidence which we gathered with reference to the subject of war and war preparation as it relates to human "safety first." Having been in Berlin a couple of days, our party proceeded to Dresden, where we were marooned by reason of the mobilization. This mobilization presented to view the most perfect organization of enormous masses of men, which it will probably ever be my opportunity to see. The recruits came in through the many railway stations in the city, usually in companies of about two hundred. They ordinarily passed directly to the arsenal where each man at once found at hand his complete uniform and accouterments, and his implements of war and ammunition. Having been equipped in the course of a very short time, he was either assigned to a residence in the town or transported directly to other points with his organization. Though the town was filled with tens of thousands of these forces and though they were apparently permitted much freedom to pass where they would, there was abso-

lutely no disorder on their part. Indeed, a more quiet, self-controlled set of men could not be imagined. The people themselves, naturally, were quite excited and frequently gathered in large groups. Though there were more or less noise and applauding, I detected practically no misconduct. The cooking wagons to accompany the army were most perfect, as were the supply trains and other requirements for provisioning and clothing the soldiers. Apparently all horses and automobiles in the Empire had been registered and their whereabouts known, for they were gathered in as needed without disturbance, and apparently with great promptness. It is interesting to note that in Germany the people are commanded to receive soldiers in their homes, to give up their horses and automobiles, and perform other duties—but they are well paid, and appear glad to be of service to the Fatherland. Likewise, citizens are commanded to join the army—though, of those not officially called, great numbers volunteered. Within a few days the reserves had been collected and sent to the front from over the whole empire, constituting a complete, well-organized, well-trained army to be counted in millions. The railroad schedules had been worked out in such a way that the enormous army, with its still more enormous trains of supplies and artillery, were transported, so far as I could learn, without hitch, though the burden on the transportation system was terrific.

This great human machine, worked out in such perfection in all details, represents today an awful agency for human destruction, such as the world has never before seen. The most curious phase of the whole phenomenon is that this devilish agency of destruction has been created by the peoples who, possibly more than those of any other nation in the world, have advanced their practices and methods for alleviating suffering and injury among themselves—particularly among those who work with their hands. Above I have spoken of the mobilization for the purpose of emphasizing the irresistible conclusion drawn from what we heard and saw, that such "preparedness for war" is the greatest possible incentive to war. The large number of officers which are permanently employed to man such an army and its reserves as are to be found in Germany and some other nations in times of peace, form a pro-war nucleus of the most difficult type to restrain. Those officers are inclined to look forward to war in times of peace and preach the

strongest possible arguments at their command in favor of war. As a result, when two nations have a difference, instead of endeavoring, in a sensible, humane way, to settle the trouble, the military officers tend to encourage and preach settlement by force. Indeed, the two nations become like a couple of boys with "chips on their shoulders." May this war be such a lesson to us that our "jingoes" may be reduced to silence and that we, as a nation, may confine our warlike preparations to the very least that is necessary for reasonable national defense and to the performance of our part of the international police duties.

In Berlin we visited the magnificent Museum of Safety, given to the Empire largely by the Kaiser. This museum is probably the finest in the world and has some points of interest worthy of mention. Thus, it contains most of the tools used in industry, set up so that they can be operated, and arranged with the best types of guards. These guards, I might add, are, as a whole, much in accord with the best practices in the United States. The use of models for illustrating methods and practices is also quite interesting. One of the large models dealing with proper methods of scaffolding is particularly noteworthy and shows right and wrong methods of making such structures. I noted throughout the Empire that the scaffolding used in practice is, as a rule, excellent—the platforms are guarded by rails and the supports are strong and trustworthy. Full-sized models show safe methods of mining and mine blasting. Right and wrong ways of using elevators, cranes, tackles, etc., are illustrated by standard equipments completely installed for service. Many hygienic models exhibit the effects of injury and dangerous practices to the health or limb. Sanitary appliances in the nature of wash-rooms, toilets, etc., in shops are given large space.

The agricultural machinery exhibited particularly struck our notice. This machinery includes the barbarous feed-cutter, thrasher, traction engine, and the various other machines required on the farm, properly guarded to reduce accidents to a minimum. The accidents in our own country on the farms are undoubtedly far greater than is known to be the case from statistics, by reason of the fact that apparently but a small percentage of such accidents are reported to the authorities and because it is difficult to enforce the reporting of accidents by individual farmers. Evidences of the truthfulness of my supposition, however, is to be found by visiting

our rural villages and making an investigation of the number of injuries that have occurred through unprotected farm machinery in the surrounding country.

Another interesting phase of the exhibit is contained in the large area given to models and plans of practically and artistically designed workmen's houses, as well as of the living appliances, such as furniture, stoves, etc., which might be properly contained therein. In England there is strong opposition to spending large sums of money on a great central safety museum, as it is contended that such institutions are but little used by those who should have the information contained therein. There, those in authority prefer to use small exhibits, preferably portable, such as are now being circulated in Pennsylvania.

While there was difficulty in entering the industrial plants in both England and Germany, through the letters I carried and the intervention of influential officials, I was enabled to obtain admittance to a number. Indeed, in England I had a factory inspector assigned to me for this purpose through the courtesy of Sir Arthur Whiteley, the head of the Inspection Department. We found in the machine shops, wherever we went, a quite full observance of the regulations to guard gear wheels, belts, holes, stairways, couplings, shafts, etc. Apparently the manufacturers of both countries have accepted the methods laid out by the government regulations as proper and as part of the regular procedure of their establishments. I noted in the "fencing" of belts which ran over pulleys near to floors that the guards are usually made of heavy wire mesh about $3\frac{1}{2}$ feet high, in the form of two contiguous sides of a rectangular enclosure. These angular guards, as a rule, are not fastened to the floor and in a number of cases we noticed that they had been displaced. We found that the practice with reference to industrial sanitation and hygiene is well advanced and equal to the best in this country, while the danger signs, safety and health bulletins, and other "Safety First" educational methods are effective and commendable.

Another interesting item which we noticed was that the government safety and health rules and regulations are so drawn that the inspectors can use good judgment and sense in their application. For instance, if a belt passes near the floor but is not in a location which causes danger to employees a guard is not required. This

sensible construction and application of rules and regulations appears throughout the industries and represents a broad-gauge policy of guarding which can, to excellent advantage, be followed in this country. I make this statement by reason of the fact that I have been in establishments in the United States where guards have been installed which were not needed, merely because the regulations seemed to require them. A pointed lesson is to be found here, namely, that factory inspectors be so thoroughly trained that they may be given safely generous latitude in applying official rules and regulations to fit the conditions in hand. We were particularly struck by the intelligence and efficiency of the English inspectors who are, I understand, in every case not only experienced in industry but are also holders of collegiate degrees. This latter qualification is not required for appointment, nor should it be so considered, especially in a republic, as a result of the civil service examination in England. We also noted that inspectors are given a thorough training, extending in some cases over several years, before being assigned to independent territory. There is in this country a not uncommon notion that any man, who has been a good mechanic in a factory, can serve as a factory inspector without reference to his scientific attainments or special fitness. The countries that have been at this work for many years like England, which has had a fully established department of factory inspection for a quarter of a century, have long ago learned the necessity of having only the best men of wide experience and technical training in their inspection forces.

The next item of "Safety First" to the industrial workers which appealed to us was the housing problem. In Germany this has been attacked by means of carefully organized and efficient city planning. The streets of the rapidly growing cities have been laid out in such a way as to make transportation between residence and factory as economical in time and money as possible. This system of transportation, however, has not only been confined to the city but has extended many miles into the suburban districts; so that the workingman may have his house and garden a long distance away from his work without either a great burden upon his pocket-book or his time. The factories of the cities are confined to proper limits so that they do not encroach upon and injure the comfort and healthfulness of the resident districts. In like man-

ner, to a large extent, are the commercial activities confined, and the same methods are applied not only to the city but also to the suburbs and the small towns. We traveled all over the cities of Dresden and Berlin and also into the manufacturing suburbs for the purpose of finding the slums and rows of unhealthful "shacks" which are so much in evidence in some other countries. Much to our surprise, these were not in evidence, nor could we find them. The industrial workers' streets in the city of Berlin, like other streets, are wide and built up with artistic houses, fronted by balconies filled with flowers and, while we were there, decorated profusely with German and Austrian flags. I have been told, though I was unable to determine fully upon this, that there is more or less overcrowding in some of these very good looking dwellings, but they are well lighted and the conditions are not seriously bad, as a rule. Another feature which is deserving of criticism is the placing of large numbers of small factories in the central yards of many of the blocks of houses, thus cutting out the possibility of using the space for the customary beautiful German gardens and playgrounds, and depriving the children, living around the edge of the blocks, of much happiness and possibly health. A material part of German industry is carried on in the homes and makes possible conditions that more or less approximate our sweat-shops, though I understand that the thoroughness of inspection reduces this to a minimum. The wages obtained by the home-workers,—as well as those obtained in the factories,—are exceedingly low when compared with those in the United States, and undoubtedly add a tendency toward unsatisfactory conditions, in spite of the lower cost of European living.

Before leaving the subject of housing, it is worth while to mention the fact that building construction in both Germany and England is, on the average, of a much more fire-resistant character than in this country. In special arrangements for fire exits, etc., it is possible that some of our States have made greater advances, but this is more than counterbalanced by the better construction of buildings in these foreign countries and the greater thoroughness with which waste and inflammable materials are cared for. In short, Germany and England are far advanced over us in both building construction and fire prevention housekeeping.

...In studying playgrounds for the industrial workers' children.

we went through thoroughly the extensive playgrounds in the Dresden forest for the working children of that city. That part of this forest devoted to playgrounds is largely divided up into plots of a few acres. Each of these plots is assigned to a couple of hundred children who are placed under the direction of one of their fellows as captain. This captain, for his extra responsibilities, is assigned in the enclosure a small plot which he may cultivate as a garden and from which derive such income and pleasure as is possible. In his plot he also has a small house in which he keeps his tools and to which he may retire or take others of the children. Such plots are also given as rewards of merit to other deserving children. There is a small hospital in the playgrounds which forms a center where a few nurses and caretakers stay and there is also a restaurant which furnishes lunches at a surprisingly low cost. Some 4,000 or 5,000 children are to be found in the grounds every day. It is interesting to note that these playgrounds are kept up and maintained by a voluntary organization of people of the city, largely the working people with children. The city does not give anything towards the maintenance and even demands a moderate rental for the use of that part of its forest. In addition to this great playground, the numerous parks and open spaces scattered throughout the city contain small tracts, sand piles, etc., in which the children are permitted to play. One of the most interesting phases of all of these playgrounds and garden plots is the fact that they are very pleasant, filled as they are with luxuriant shrubbery, flowers and trees. The main playgrounds contain many devices for juvenile entertainment, and the children are given such instruction as is possible for learning games of an interesting and proper character.

Among the valuable welfare and health safety subjects in Germany is the system of garden plots for the industrial workers, laid out in the outskirts of the towns. Great stretches of land are divided up into small plots and these are assigned to people who desire to use them. In most cases, those having plots build small inexpensive cabins on them for holding their tools, etc., and in many cases for use as summer residences or picnic houses where they can spend a night or two in the comforts of country air and life. These large additions of garden plots are common, and, by reason of the flowers they contain, frequently a beautiful sight

around the cities of Germany and must prove a great accelerator of health and happiness to the city people.

Much of our time was spent, both in England and Germany, in studying methods of reduction of suffering caused by the unemployment resulting from such causes as accidents, sickness, permanent invalidism, enforced unemployment, strikes, etc. We found that the compensation for accidents, where the employer bears the burden, is not only a thoroughly established policy, but is accepted as a matter of course by the manufacturers and other employers of these two countries. In Germany, the compensation system for accidents holds responsible all employers and does not, as is so often the case in our States, exclude those in agricultural and domestic pursuits. Indeed, a private householder may not only become liable for damage to his or her employes in the kitchen and elsewhere, but may be similarly held for injury to others who enter his house temporarily as guests or on business. In England, the compensation insurance business is carried on by private companies. Unluckily this is done in such a way that there is small incentive given through it to employers of labor to install safeguards. Slight modifications would rectify this weakness. We found compulsory sickness insurance quite fully developed for the purpose of protecting those who have to leave their work for short periods by reason of physical ailments. The only persons who are required to be insured are those who receive less than a certain minimum annual income. These comprise for the most part industrial workers, clerks, etc. There is also the permanent invalid and old age insurance which is managed and handled in a way much similar to that of the sickness insurance, differing mainly in the fact that here the government obligates itself to greater financial responsibilities. A lack of time will prevent my going into these welfare methods of insurance, though they represent important practices with reference to dealing with those having small wage or who are unable to work. The president of the department concerned, the German Empire, in talking of the subject of these several insurances, gave it as his opinion that our country should follow in the same lines only after careful experiment and study, as he believed that the dissimilar conditions existing here might be injurious. He intimated that the adoption of so much governmental protection would have a tendency to weaken

the present independent spirit and rugged self-helpfulness of our citizens. His words could be construed as a warning to us to steer clear of paternalism in governmental channels.

In Dresden, we examined in quite full detail the unemployment office of which, in both England and Germany, there are examples in all industrial centers so arranged as to cover the entire territory of the countries. The Dresden unemployment bureau occupies a long building having about a dozen doors opening upon the street. These doors lead to waiting rooms which are occupied by classified applicants for positions. Thus, one room is reserved for skilled mechanics, another for unskilled workmen, another for hotel service, etc. To the rear of the waiting rooms is a string of registering offices connected with the former by desk windows and doors. The clerks at the windows hand the applicants cards which they fill out with their names and addresses, the kind of work they desire, their past positions and such other information as may be required. These cards are then properly filed. Another set of offices keeps in touch with employers. When an employer needs men, the registration files are gone over and he is sent such workmen as seem best adapted to his purposes. There is not apparently, in these offices, a very thorough system for determining the character and efficiency of the workmen, but as a whole they seem to be excellently arranged and operated. The annual report of the Dresden office shows a large number of persons furnished with work at a very small cost per person. The various State employment offices in Germany are in close contact with the individual city offices and all again are allied with the central office in Berlin.

In England we found a similar system of effective unemployment offices, but here they are carried on in connection with a system of "unemployment insurance" which now extends over a number of the principal trades of the United Kingdom. This unemployment insurance has been in effect only a few years but the officials and industrialists with whom we talked believe that it contains elements of much value to industry. The insurance premiums are paid by the employer and the employee jointly, and the executive work involved is carried on, as far as possible, in co-operation with the labor unions, which in many cases act as distributing agencies. Complex and difficult problems are encountered in the management of this activity.

We found in England, then, that those receiving an annual income of less than a certain amount, in many lines of endeavor, are assured of support in case of accident, temporary sickness, permanent invalidism, old age or lack of work. It might be well to add that the unemployment insurance is not paid in cases arising through labor differences and also that the unemployment bureaus are so organized as to be incapable of influencing either one or the other side of a labor controversy. This is an important point. It also might be worth noting that if a person without work is offered a position for which he is qualified by the unemployment bureau and refuses it, his insurance benefits cease. In addition to the unemployment welfare movements above enumerated, both England and Germany are making endeavors to use the public works as a means for providing labor for those in enforced idleness, and in Germany, in particular, there are a surprising number of welfare organizations, covering a wide range of human conditions which are either entirely voluntary or are partially official. These organizations are enough subject to governmental control as to ensure their working in fairly satisfactory harmony one with another. It is worth while to add at this point, that we found the hospital and sanitarium effectively correlated with these various welfare movements which we have been discussing. Methods of arbitration of labor disputes, though developed to some extent in the European countries visited, have seemingly not as yet extended as far as may be found in some other places. They are, however, gaining ground.

Another great phase of human conservation is to be found in the continuation schools, those of Germany being particularly worthy of notice. We spent several days in the schools of Berlin and found them to be quite fully organized and accepted as a regular branch of the German school system. Here young men and women, who must go to work at 14 (14 being the minimum of child employment) are compelled to attend a practical school six hours in the week for a period of three years. The schools are so arranged that those who are pursuing similar vocations or apprenticeships are drawn together, and the teaching is especially designed for increasing their capability in their chosen fields of labor. Thus the locksmiths are taught a great deal about the tools of the trade and about the materials of construction, such as iron, steel, brass, bronze, etc. This teaching is done in a most simple, clear and systematic manner.

Usually the instructor stands before the class and talks to his pupils about the subject in hand. After this, the pupils are expected to write careful papers telling what they have learned. This latter exercise not only cements their knowledge of the subject but is an excellent form of practical training in writing the mother language intelligently and usefully. The pupils are given about one-third of their time in this kind of direct practical application. The other two-thirds of their time are devoted to teaching them arithmetic applied directly to their life work; German of a like practical character; simple business principles; information concerning the social, labor and other similar laws of their city, State and Empire; and instruction in the humanities, such as the proper attitude to display toward the employer and fellow employees, the discipline of the industrial workroom in which they labor, methods of caring for their health, saving their earnings, etc. The directors of these schools, with whom we talked, speak in the most enthusiastic manner of the improvement which is gained thereby to the young men and women who attend. I believe there is no single phase of activity so much needed in this country as the rapid establishment of similar continuation schools. Along with the compulsory day continuation schools, are also carried on voluntary day and evening classes for any person desiring to attend. The enrollment of these voluntary schools is quite large.

Naturally as we went through our summer's studies and explorations, we found various items which did not fully meet with our approval. For instance, we found a tendency, in Germany, to what is sometimes considered over-organized bureaucracy. Thus, in the work of sickness insurance for the city of Berlin, the number of state or city employees for carrying on the various phases of the work is apparently much greater than seems to be wise. Indeed, to a layman, the whole subject of cost of government rated in numbers of employees, seems to be excessive and to be a serious drain upon the resources of the country. In the development of our American National and State governments the numbers of employees are becoming rapidly greater and will, if great care is not exercised, tend to reach the same apparently unsatisfactory condition here as the country just mentioned. My own opinion is that all welfare, equally with all similar government activities, so far as possible, should be carried on by local communities, with the State or United States, as

the case may be, taking the position rather of an adviser, having full power to compel proper performance where the local community is not capable or rightly inclined. This policy tends to reduce the weakening effects of paternalism to a minimum and encourage the growth of local pride and competency. We also found in Germany a disregard for life and limb in the streets which to an American is quite incomprehensible, in spite of our own shortcomings. The traffic apparently has first right and the individual must look out for himself. With large numbers of automobiles, street cars, busses, etc., in the streets, this requires, in some cases, the agility of an acrobat. The street cars, themselves, in many places have no air-brakes and stop and start in a most unexpected manner. The cars and busses have no safety vestibule doors and it is a quite common sight to see many people jumping on and off such vehicles while they are moving. Indeed, one of the most interesting sights of our trip was the grace and agility with which women boarded and alighted from street cars in more or less rapid motion. The freight trains of the Empire, to a large extent, also lack air-brakes and automatic couplings. The bumpers of these cars are made long so that a man is not apt to be squeezed who is making a coupling, unless he gets a shoulder, arm or head between the bumpers or is knocked over by the train starting. Whatever the statistics may show, there must be serious danger of accidents in the streets and on the railways of some of the foreign countries, by reason of these comparatively primitive methods. These dangers are somewhat lessened, comparatively, however, by reason of the fact that the American "speed mania" does not seem to have crossed the Atlantic. Though it is generally understood that people do not stand, to any extent, in the street cars and busses of Germany (the rule being in some cases that two or three people may stand outside), nevertheless the car platforms are made very large and people are permitted to crowd in quite large numbers upon them. We found it necessary to stand more during our foreign trip than is usually our experience in this country. This may, to some extent, have been due to the disturbed condition of affairs on account of the war, though careful inquiries did not indicate such to be the case. By these comparative criticisms, I do not mean to indicate in the least that we should reduce, in any way, an energetic movement to further advance our own methods of safety, both in the

street and on the railroad, but rather for the purpose of indicating "how not to do it."

In both England and Germany the woman and child are protected along the line of our more advanced legislation in the United States. The protection of the child extends not only to the housed trades but also includes the street trades. Moreover, the continuation school form is a break in the weekly labor of the child and a stimulus to his mind that not only makes him more competent mentally, but undoubtedly aids in his physical development. One of the interesting phases of the street trades in European countries is the absence of small boys selling papers and the presence, in their place, of men and women of all ages. In the legislation of these countries, dealing with hours and conditions of labor, apparently the various official boards of control have more latitude than is given in this country, so that the laws can, in many cases, be applied with greater helpfulness to specific conditions.

Taken all in all, my party had a unique experience in its unusual opportunity to observe in the countries visited, on one hand the most perfect piece of human machinery for the destruction of the human being, and on the other hand, to see the working of rapidly perfecting and magnificent systems for the promotion of human welfare, health and safety. The evidence we gathered indicates clearly that in America we can see and take much of value from the good works that are being promoted by our sister countries in Europe, while at the same time those countries have laid before us as a nation striking lessons which should be as danger signals directing us away from imperialistic, military and paternalistic paths which lead only to human suffering and destruction.

In closing I must add that our party was treated with the utmost courtesy, consideration and helpfulness by the officials and people with whom we came in contact while on our journey, and though they have our cordial and sincere thanks, we are deeply in their debt for the constricted labor and sacrifices they devoted to our well being and to forwarding the work we were engaged in; but nevertheless, in spite of the many good, new friends whom we left behind, I must admit that when we placed our feet upon the American continent, in the latter part of September, it was with a deep feeling of patriotism and great joy in the thought that we were home again among our own people.

THE CHAIRMAN: The next speaker on the program is Mr. Barney Cohen, assistant chief, Department of Factory Inspection, State of Illinois, Chicago, Illinois. Mr. Cohen has rather a lengthy pedigree and in order to conserve his time I will refrain from reciting it to you. Mr. Cohen. (Applause.)

MR. BARNEY COHEN: Mr. Chairman, ladies and gentlemen: I happened to come in and glance at the two lights, one red and the other green, and I inquired as to the meaning of them. They said, "It is to keep the speaker within reasonable bounds." I want to know whether the green will affect me.

THE CHAIRMAN: Two minutes after the green light flashes, the red light will be flashed.

MR. BARNEY COHEN: The clearest thinkers of the day are alive to the truth that the compensation of injured workmen *after* the accident which disables them, is far less intelligent than the preventing of that accident.

When an entire citizenship recognizes the truth of that statement our state legislatures generally respond by offering a law to meet and remedy existing ill conditions. And we should understand the term "law"—not as a combination of quibbles and tricks, designed to promote dishonesty and sharp practice, but a system intended to compel honesty, truthfulness, candor and fair dealing among men.

A majority of the legislatures of our great states have created state departments for the protection of the working people—some are called "industrial commissions" and others "departments of factory inspection." These various institutions are commissioned to enforce the many phases of labor legislation. Some of these may be enumerated here:

Safety—Including freedom from accidental physical injury, freedom from industrial disease, ventilation to preserve health, light to preserve sight, and exhausts to remove dangerous dusts, fumes and gases.

Compensation—For loss of wages, medical attendance, because of accidental injury or industrial disease.

Limitations—As to employments of women and children.

Employment—Offices to aid in the proper distribution of labor.

Living Wage—For those unable to safeguard themselves in bargaining.

Investigation—To promote industrial welfare by education.

Arbitration and Mediation—To prevent strikes and lockouts, and promote industrial peace.

Statistics—Compiling and analyzing facts in order that proper deductions may be drawn.

Publications—To disseminate knowledge of industrial conditions for the benefit of those directly concerned and of the public as well.

The history of factory legislation dates back to 1802 in Great Britain, when Sir Robert Peel secured the passage of the "Health and Morals Act."

In France a number of laws for the protection of workers was passed beginning with the "Ordinance of 1806." And in Prussia and the German States labor legislation began in 1830. In Austria attempts at labor legislation were made in 1786; in Switzerland not until 1859, and in Belgium in 1813.

These countries in the infancy of their labor legislation soon found that the mere enactment of laws did not satisfy the workers or give the protection desired.

The first state to develop an effective factory code—as it had been the first to introduce the factory system of manufacture—was Massachusetts, with New York second. Pennsylvania was a close third, following the lead of New York rather than of Massachusetts in the method of enforcement. Illinois did not make an effort to secure any kind of factory legislation until 1880.

The extent of the protection given by a state to its laboring class depends not only upon the mere existence of an administrative institution and enforcing department, but also upon its efficiency, the scope of its powers and functions, the extent of assistance given to it by other administrative institutions, the methods of work which are adopted by the officials of the department, and the number and character of such officials.

The amount of actual protection given by a factory inspection department to the laboring class in a state can be judged only by a knowledge of the industrial conditions prevailing in that state, the character of the labor laws on the statute books, and the extent to which such laws are enforced.

Statutory law, if incompatible with or too inflexible to be co-ordinated with the changing elements of economic force, if administered contrary to or in ignorance thereof, will either be overborne by economic law and necessity, or else will tend to restrain, if not to destroy, industrial progress.

Economic law, the product of economic forces, springing from we know not where, is the most inevitable, as it is the most irresistible of all law.

It, too, is constantly changing with the progress of invention and science, in the arts and industries, with the development of transportation and inter-communication, with the productive energy of new peoples and countries, and not even all those who are in daily touch with the administration of business affairs are always sensible to the changing currents and the overwhelming power of economic law and necessity, which, like time and tide, wait for no man.

A survey of the history of the remarkable industrial and business development of this country indicates that its achievements have been, in the main, due to the initiative, energy, enterprise and bold courage of an immense number of individuals, breathing and operating in the free air of untrammelled opportunity, in which alone true genius can work and survive.

A study of the theory and practice of factory inspection legislation in the various states of the Union discloses the surprising evidence that there is as yet little scientific standardization of safety and sanitation, and that the industrial codes and factory laws do not as yet contain exact standards for the guidance of the inspectors and for the use of employers and manufacturers.

It is interesting to note that no new standards have been set of the methods of factory inspection with reference to safeguarding dangerous machinery in the leading states of our country within the last few years. It is noticeable, moreover, that inspection with a view to detecting violations and contraventions of factory laws is still the principal method pursued by most inspectors in the different states. The general routine procedure is about the same in all states. An inspector usually begins by announcing his authority upon entering the plant; then, accompanied by a representative of the firm, examines the books, registers, etc., verifying by general examination the personnel of the workers with the registers and

books, and then proceeds to an inspection of the sanitation and machinery of the plant.

The methods of taking notes and keeping records differ very much. Only in a few states—and in these not generally—is a card system used for inspection or for keeping records. Most inspectors note only violations. The general impression is that in the matter of keeping records of inspections, violations, etc., most of our leading states have established very progressive inspectorial departments within the past decade.

When the first child labor law was spread upon the statute books of Illinois in 1891, this State did not occupy such industrial pre-eminence as at the present time. That law was primarily introduced to curb the vicious methods of the garment trades in general by reason of an epidemic of various sicknesses which were traced to a large number of sweatshops in Chicago. In the following years several new laws were placed upon the statute books, covering various subjects, and many hundreds of bills dealing with equally numerous subjects were presented to the legislature but failed to become law.

Not until the year 1909 did Illinois awaken to the fact that within its boundaries were some 28,000 manufacturing establishments where hundreds of thousands of dangerous machines and machinery parts were constantly harassing the life and limb of the workers. Public opinion finally was aroused to the great thought of "SAFETY FIRST" in industry, and before the Forty-seventh General Assembly adjourned that year one of the most comprehensive and beneficial laws became effective. This law is commonly termed "The Health, Safety and Comfort Act," and completely makes provision to cover every dangerous part and every unsanitary condition within a working establishment.

Until the passage of this law, the inspection force of the Illinois Department of Factory Inspection amounted to nothing more or less than truant officers who sought to detect violations of the child labor law. With the enactment of the Health, Safety and Comfort Act, the State not only recognized the plea of "SAFETY FIRST" in industry, but created a need for safety engineers, men technically trained to divert accidents by rendering all hazardous machinery safe before the employee is permitted to operate such machinery. SAFETY FIRST by the State has been taken up only by the lead-

ing commonwealths of the Union, and the idea did not gather foothold until within the last five years.

In nearly all States the wording of the factory legislation insists that proper safeguards shall be installed in factories where dangerous machinery is in operation "when deemed necessary" by the factory inspectors. In those States in which the judgment on damages from a factory accident is left to the decision of the courts it must necessarily be the case that the charge of the judge must center around the definition of the adjective "proper." A shrewd business man has well said that the use of adjectives in a document to go before a court is a most pernicious practice for everybody but counsel. The experts are summoned to define the adjectives, and the jury casts its judgment in accordance with its predilections and not always in accordance with the facts.

When the inspector is called to decide what safeguards are "proper" in such a law, it is left to his individual character and to his conscience to decide what safeguards he shall "deem necessary." In the absence of any standard to steady his judgment, he may, with entire conscientiousness, render a wrong decision. In the absence of conscience as well as a standard, an inspector may do any kind of thing whatever. The chances are against agreement on the part of factory inspectors themselves. The inspectors, being human, moreover, can be persuaded by the owner whose standard is low in the interest of his desire for moderate expenditure that an inadequate safeguard is proper. If there were an accepted standard, the decision of the inspector would be on a basis of fact, and not on variable opinion.

So much also of effective safeguarding is the consequence not alone of the physical or mechanical appliances on the machines themselves, but the rules in force by the management to prevent accident, that another type of standardization is called for. In one shop there may have been a series of accidents which have emphasized to the owner the safeguarding of certain groups of machines or danger zones of the plant that he has become rather emphatic in insisting on the protection of these plants. In another shop in the same town they may have had immunity from that particular class of accidents, and consequently are blind to the dangers in a given class of machinery while they have been carefully protecting their people in another way. The workmen in these days pass frequently

from shop to shop, and if they find differences of opinion among the employers and superintendents and foremen it leads to confusion of mind and a resulting carelessness of attitude to the whole proposition of securing safety. What would seem called for, then, in this view, is a movement to secure standardization of the mechanical devices to be applied at the danger zones of standard machinery, and the other is a standardization of shop rules and the discipline of their enforcement. With certain grades of labor which have as yet mastered the English language only to a limited degree, the necessity for standardization, both of devices and rules, is most important. The ignorance of danger in the plant is one of the most prolific sources of accident. A man who passes from a well protected plant to one which lacks even the first elements of safeguarding is certain to invite disaster upon himself because he is but half educated concerning the dangers.

The standardization of safety devices, either by law or by agreement, would be of advantage to the employer of the better class who felt that his duty was to pay more attention to the problem of safety. He would take these steps and make the necessary expenditure in deference to a high principle and responsibility to be his brother's keeper. In a business way, however, he must compete with the man of lower standard in these matters, who will let his people suffer injury and pay the necessary compensation expenses rather than incur the cost of safeguarding, which, of course, ultimately appears in the price of the manufactured article. The absence of standardization may well enable a conscienceless manufacturer with less efficient management to compete with the higher type of man and plant. All manufacturers would then be alike if this principle were in action as respects the minimum requirements for safety. The better man would, of course, go further than such a minimum.

By whom, then, shall this standardization be effected? The factory inspector of the State is perhaps the best person to establish standards for the safety devices to be applied to the machines. Such inspectors, however, and such standards can be an effective force only in the State which enacts them. This is a subject for national legislation. Uniformity of such laws must be brought about by congressional action, and I would suggest that the governor of every large industrial State appoint a commission to draft such

legislation and submit the same to Congress for immediate action. The whole success of this idea depends upon the contingent legislation of various States, and since most of the large States adjoin each other the matter could be accomplished without any great difficulty.

I would further suggest that a bill be introduced in the General Assembly of Illinois to require all manufacturing establishments to register with the factory inspector once every year. The purpose of this register would be to ascertain location, number of employees, the kind of work performed there, under what conditions with reference to the number of dangerous machines, whether under compensation and whether the plant had been inspected by a factory inspector within the past year. This would place all establishments on the same level in this State and give the factory inspector an idea of the plants which need most attention to bring delinquents in safety work up to the standard of the better equipped plants.

Of course, the co-operation of all governmental offices and departments is of vital necessity. While at present a great deal of duplication is performed in various offices, we hope in the near future to eliminate this and concentrate a particular line of work under one department head.

I believe that the main idea of better safety for all in the industrial line must depend upon the individual. After all laws and printed notices serve but to attract attention to certain degrees of danger and the real success must be harvested by making every man perform his duty. The word "duty" should imply striving to protect and add to the better daily life of each brother in the field of labor, whether he be owner, plant manager or common laborer.

Every campaign—as is the case with the safety propaganda—must be carried on with perseverance. The start is always discouraging and many obstacles must be overcome. But patience and a sincere belief in the message you bear must ever lead you on to secure the ultimate goal you are striving for. There are times when the pulse lies low in the bosom, and beats low in the veins; when the spirit which, apparently, knows no waking, sleeps in the house of clay, and the windows are shut, the doors hung in the invisible crape of melancholy; when we wish the golden sunshine pitchy darkness, and wish to fancy clouds where no clouds be.

This is a state of sickness when physic may be thrown to the dogs, for we wish none of it. What shall raise the spirit? What shall make the heart beat music again? and the pulse dance through all the myriad-thronged halls of life? What shall make the sun kiss the Eastern hills again for us with his old awakening gladness, and the night overflow with moonlight, love and flowers? Love itself is the greatest stimulant—the most intoxicating of all—and performs all these miracles, and is a miracle itself, and is not at the drug store, whatever they say. The counterfeit is in the market, but the winged god is not a money-changer, we assure you. Men have tried many things, but still they ask for stimulant. Men try to bury the floating dead of their own souls in the wine-cup, but the corpses rise. We see their faces in the bubbles. The intoxication of drink sets the world whirling again, and all the pulses to playing music, and the thoughts galloping; but the fast clock runs down sooner, and an unnatural stimulant only leaves the house it fills with the wildest revelry more silent, more sad, more deserted. There is only one stimulant that never intoxicates—duty. Duty puts a clear sky over every man, into which the skylark, happiness, always goes singing.

It is your duty to preach the gospel of safety, as it is your duty to see that others do their duty in this regard, it is your duty to interest your legislators and congressmen in this great need, and it is your duty to convince every plant owner and superintendent in this great work. By following these outlines and suggestions the natural consequence will take care of itself, that namely, of governmental agencies becoming more proficient, efficient and highly successful.

You must all be influenced to recognize the truth of these facts. With the passing years the painter's color fades; time rots his canvas; the marble is dragged from its pedestal and exists in fragments from which we resurrect a nation's life; but oratory dies on the air and exists only as a memory in the minds of those who cannot translate, and then as hearsay. So much for the art itself; but the influence of that art is another thing. He who influences the beliefs and opinions of men influences all other men that live after. For influence, like matter, cannot be destroyed.

It is well for us to remember that we are either raising or lowering the standards of those with whom we associate. Every thought,

every word, every act of ours, either adds to or subtracts from the strength of our companions.

THE CHAIRMAN: Mr. Cohen deserves your commendation, he quit before the red light flashed. Now we have one minute and fifteen seconds for general discussion. (Laughter.)

MR. J. M. WOLTZ (Safety Engineer, Youngstown Sheet & Tube Company, Youngstown, Ohio): Mr. Chairman, I sympathize with those Government officials who have addressed this assembly asking for co-operation. I have had fourteen years of Government experience, and I know something of your difficulties. However, it seems to me that it is due to those who are engaged in manufacturing that the Government should co-operate with us. The Bureau of Mines publishes a little postcard, or a card that they send out, giving a list of their publications and those who want those publications can send and get them. I believe that your Department does not. There are a number of your departments that do not. Your Department has a lot of information I would like to get.

THE CHAIRMAN: I will see that you get it. We do publish a list of our publications, and I am occupying a good deal of my waking moments in digging people out who I think would be interested in the information contained in our bulletins. I will see that you get that list, and if you will check what you want I will see that you get it.

MR. WOLTZ: Is not that published in a large list?

THE CHAIRMAN: It is a complete list of our publications.

MR. WOLTZ: Yes; well, I have a copy of that. These lists are revised occasionally, about once in five or six months, are they not?

THE CHAIRMAN: Those publications that have become unavailable are marked "unavailable."

MR. WOLTZ: The Department of Mines, as they issue their publications, mark them, and those are available as they are issued.

THE CHAIRMAN: We try to follow the same practice. If you are on our mailing list you get the publications you ask for and

get them just as soon as we can get them through the public printing office. There is a chance for co-operation—the public printing office.
(President Campbell resumed the chair.)

THE PRESIDENT: I thank you very much, Doctor, for your efficient chairmanship.

Before proceeding to the Economics Session, with your permission I am going to give you an opportunity to stand up and stretch yourselves and maybe relieve the tension that a long session gives to one. We will have a recess for two or three minutes to give you that opportunity.

(A recess was then taken.)

ECONOMICS SESSION.

Tuesday, October 13, 1914, 3:30 to 5:00 p. m.

THE PRESIDENT: We are all aware that aside from the purely industrial and the purely humanitarian aspect, there is a very large economic aspect to the safety movement. It has therefore seemed quite proper and fitting that a part of our time at this congress be given over to the consideration of some of the economic phases and aspects of Safety Work. The Chairman of the Session is an educator, an economist and a student of social conditions, so that I take pleasure in introducing to you one who is well qualified to preside at an Economics Session of this kind, and to speak upon the subject which he has chosen, "Safety as a Part of the Education of an Engineer." I take pleasure in introducing Dean C. B. Connelley of Pittsburg, Dean of the Carnegie Institute of Technology. (Applause.)

(Dean Connelley took the chair.)

SAFETY AS A PART OF THE EDUCATION OF AN ENGINEER.

THE CHAIRMAN: Some years ago a prominent engineer, in speaking of the training of the young men of his profession, stated that "the engineer must know something of many things, several things well, and *one thing profoundly*." It would be interesting to know what name he gave to the *one thing* emphasized as especially needful in his estimate of the educational equipment of the young engineer. In these days there can be no uncertainty as to the one thing needful, especially since we are reminded by one of our leading educators in this field that "the education of an engineer is necessarily involved in the question of his responsibility." Recognizing the exalted position in modern life deservedly won by the men of this calling, it must follow from what we know of the American characteristics—the utter carelessness and wanton wastefulness on one hand, and the demand for speed, increased products,

diminished labor, lessened cost, on the other hand—that the great towering need in the education of the engineer of today is the definite knowledge that human life is worth more than a machine and that there is a way to direct the great resources of power in nature for the use and convenience of man without bringing more human suffering and misery into the world.

There was a day when the great masterpieces of engineering—those glorious and colossal feats of workmanship which stud the earth—were reckoned with the balance in favor of material achievement. Those now remain as the relics of a bygone and—shall we say?—an almost barbaric age. Humanity has since awakened and is rapidly asserting itself. Indeed, it would seem that even that one-time powerful figure in national life, the military engineer, is making his last stand in the continent of Europe and it is to be hoped that, out of that awful cataclysm, the military engineer will give way to the peace engineer as the more effectual factor in the world's progress. The new era of the more exalted feeling for humanity has been ushered in with the ultimatum that no longer can pyramids be built at the price of thousands of lives, even though they are but slaves; rivers shall not be spanned at the cost of human life; the earth must not be delved into with humanity as the diamond point; nor shall speed in machinery be had at the risk of bodily injury. It is pointed out that during the last ten years, the time occupied in the construction of the greatest of American engineering feats—the Panama Canal—more lives were lost through accidents in that work than during the War of 1812 or during our Mexican War. The number of deaths from May, 1904, to March of this year, as a result of accidents, is officially given as 1,219, including 167 deaths from accidental drowning, all of which did not occur at the work. It is also stated that the accidents resulting in injuries during about that same period reached a total of 25,101. Appalling as this may seem, it is freely admitted that, although the work was in charge of most capable engineers, it would have been a failure had not the new element of "Safety First" entered into the work in the guise of the bacteriologist, the physician, and the sanitarian, and made it possible for white men to live in a fever-stricken zone. It is clearly apparent, then, that the principles of safety, as we know them today, must occupy a chief place in the work of him who, in a

special sense, subdues the earth, masters the waters, and is fast appropriating the air as a vehicle for his genius.

In order that this idea may take root, it is imperative that Safety must become part, and the important part, of the training of our young engineers. Our engineering colleges and universities must hold high the white cross on a green shield, the symbol of the "Safety First" movement. It is true that the curriculum of the student in engineering is now crowded almost to the breaking point of the necessity of adding a year or more to the course, but it is also true that the modern engineer who is ignorant of the science of safety will have little room for the development of his profession in modern life. As has always been the case and is so now, "it is the duty and the glorious privilege of the engineer to receive the discoveries of the men of science (and I hold that the science of 'Safety First' ranks with the highest) with reverent hands and apply them to the solution of the practical problems of life."

It is a high tribute indeed to the work of the safety men in this country, that the world of industry and business is beginning to demand of the engineering schools a new type of specialized engineer, known as the safety engineer. In an address before the students of the Sheffield Scientific School of Yale University, during one of the early months of this year, Ferd. C. Schwedtman, the Nestor of accident prevention and workmen's compensation in this country, pointed out that safety engineering as a profession will require thousands of engineers within the next few years; that within three months he had had requests for more than a dozen experienced safety engineers; that four states of the Union had asked for experienced safety engineers to head their factory inspection departments; that at least two engineering colleges in the United States have started a special course of safety engineering, leading to the degree of S.E., or safety engineer.

The educator is brought face to face with these facts, and, though he may cry out "of the making of specialized engineers there is no end," yet he must acknowledge the need and build up his courses accordingly. A survey of the engineering talent, from an educational standpoint, reveals the following types of specialized engineers: (1) first of all, of course, is the inventor who utilizes the forces of nature in an attempt to transform an idea

into a concrete reality; (2) the design engineer whose function is to lay out on paper a mechanism or structure so that it can be built; (3) the constructive engineer who becomes responsible for the building of the machine or structure; (4) the operating engineer whose responsibility covers both the workmen and the machinery in the technical operation and maintenance of a plant; (5) the productive engineer whose duty hinges upon the efficiency of the operation of a plant; (6) the testing engineer or inspecting engineer who passes upon the fulfillment of the building specifications; (7) the research scientist or research engineer who seeks refinements in technical processes or developments of improvements in the product; (8) the commercial engineer who is concerned with the purchase of materials and the marketing of the product; and (9) the consulting engineer who is looked upon as one who gives expert knowledge of a project in the interest of the industrial organization.

Realizing that the science of "Safety First," though still in its pioneer stage in our country, consists of the proper use of adequate safety devices and instructions in how to cultivate safety habits, it is evident that each one of the group of specialized engineers could greatly increase his usefulness by a knowledge of up-to-date safety methods. And yet we must not get away from the fact that there is room for the new type of specialized engineer—the safety engineer. It is with this man that the future of the safety movement largely lies. Like all engineers, his training calls for the usual amount of mathematics, mechanics, physics, general chemistry and drawing, also the so-called cultural subjects such as the languages, economics, etc. Then he must combine, in a measure, the characteristics of each of the group. He must be of an inventive bent of mind, because there remains yet much to be done along the line of guards for machinery and safety devices of all sorts in industrial and commercial life. He needs must be able to plan these improvements, construct them, be capable of handling workmen, bringing out the highest efficiency. It will be up to him to serve as a vigilant inspector of men and mechanism. He will have to seek out economical processes to do away with the waste products, for the elimination of waste is also a phase of the safety movement. Moreover, in the purchase of materials, he must keep in mind their relation to safety, and he must see to it that

nothing is marketed that will be dangerous to the class of workmen or consumers to whom they are consigned. And finally he must be the highest court of authority in the safety policy of the industrial organization of which he becomes a part. As a citizen of the community, too, he must act in the capacity of a safety policeman, to protect the streams and water supply from pollution likely to be injurious to the health of others. In a still larger field, he must play the part of a *safety lawyer*, because the States and the nation are beginning to make and remake their workmen's compensation laws, their employers' liability acts and the like, and it will take his expert knowledge of workingmen and industrial processes to avoid errors and unsatisfactory complications. To date, 25 States have passed laws bearing upon conditions that promote safety and sanitation.

Granting, then, the necessity of the training of the specialized engineer, as the leader and conservator of the safety movement, and as a highly useful member of society, it is perhaps equally important that safety become a part of the education of every engineer. A glance at the wide and varied fields of engineering endeavor, viz., chemical, civil, commercial, electrical, mechanical, metallurgical, mining and sanitary engineering, convinces one of the possibilities of good that can be had by thorough instruction in the underlying forces of the safety problem in the respective fields.

Considering sanitary engineering as one of the lines of more recent development, we have a specialized form of safety engineering. The engineering school has here the training of a man who is to design, construct and direct the operations of public and private works, essential to the maintenance of public health. His field of work as partially outlined today covers: (1) water supply, as to its quality, purity and maintenance, from the hygienic standpoint; (2) sewage collection and disposal; (3) refuse collection and disposal, going even into the detail of swatting the fly and the mosquito; (4) street cleaning, with the view to dust prevention; (5) river cleaning, and (6) a group of numerous miscellaneous duties, including supervision of milk supplies, smoke prevention and regulations, the study and control of epidemics, the ventilation of subways and tunnels, etc.

Another comparatively new line of engineering is chemical engineering, which also offers a rather wide scope for the application

of "Safety First" laws. The chemical engineer is the one that uses any or all of the recognized branches of engineering in order to work out a chemical idea. This chemical idea, as somebody has well said, "may be a clearly defined chemical scheme, as the contact-process for the manufacture of sulphuric acid, or it may be an entirely subordinate problem, such as softening the boiler water for a large steam power plant." In the course of his study, the very equipment he must use, such as special types of boilers, vacuum pans, multiple-effect evaporators, stills, filters, dissolvers, precipitators, settlers, electric furnaces, etc., is suggestive of a careful training in individual safety, as well as the welfare of his fellow laboratory students. This need is enhanced when we note the wide range of manufactures that are covered by his profession, viz., rubber, varnish, paint, the fermentation industries, petroleum products, coal gas and fuel gases, explosives, dyeing and bleaching of textiles, etc.

Civil engineering, probably the oldest of the engineering professions, is classified according to the present-day activities under three headings: structural, railway and hydraulic engineering. Each phase involves a kind of training which calls for accuracy and speed. The structural man needs to think in terms of safety, as he plans and constructs the bridge or the skyscraper. He must have a thorough knowledge of the manufacture, qualities and limitations of the materials which enter into his work. He must be trained to think of the safety of the men who are employed on the job and the welfare of the people who will make use of the structure in accordance with which it was intended. Many a sad catastrophe might have been averted if the structural man had been adequately safety-trained. It was not so long ago since a prominent engineer, in studying the safeguarding of life in theatres from the standpoint of his profession, said: "In the course of my own studies of the theatre and auditorium problem, I have seen almost everywhere conditions affecting the safety of life that would not be tolerated by the managers of the best industrial works, and all from the simple failure to know and to give the proper attention." The railway engineer is concerned with the saving effected by properly constructed road surfaces, with maintenance of way, improved signaling system, etc.

My attention was called this summer to an accident that could

easily have been avoided by the adequate safety device, and which illustrates the many things of the kind that demand the services of a safety man in railroad work. A friend of mine, in opening the door of the smoking compartment on a sleeping car of one of the Canadian fast trains, as the train gave a sudden jerk and threw him forward, caught his thumb in the jam and the door closed on it. It was a steel car, and, while the thumb was not completely severed from the hand, it required great medical skill to save it. He spent days in the hospital and was compelled to give it the closest attention. Had there been a safety check on this door, the accident would have been avoided.

The railway engineer is the man upon whom the management and operation of the railway system often fall. In the latter capacity he will find himself in the van of the safety movement which began four years ago and now covers about 67 railroad and has a total mileage of 183,596.

The commercial, the electrical, the mechanical, the metallurgical and the mining engineers work under more or less similar conditions as the others, and have every bit as much need of thorough safety education. The commercial engineer must exercise care in the collection and handling of statistics, in the organization and operation of an industrial plant and the utilization of such external agencies as banking, insurance, and transportation companies. The work of the electrical engineer is classified as: (1) manufacturing of the many types of electrical apparatus, such as street railway equipment, lighting apparatus, electric motor drive, sign lighting, mining hoists and elevator work, electric brakes, electric furnaces, etc.; (2) transmission and distribution of electric power and (3) transmission of intelligence, including telegraphy, wireless telegraphy (one of the greatest safeguards of the age, as regards protection at sea), telephony and railroad signalling.

Closely associated with the electrical engineer is the mechanical engineer, who presides over the science of machinery, its design, construction and production, testing and inspection, its installation, and its supervision, and hence the expert on mechanical safeguarding devices. The metallurgical engineer, concerned with the art of extracting metal from minerals and ores, has become a safety factor in a real sense by his ability to utilize poorer, lower-grade raw materials, as the adaptable raw materials become scarce, and

make them of marketable value. It is the function of the mining engineer to find and bring to the surface the coal, iron, copper, gold, silver, lead, zinc, etc., and to do it at such a cost that the business venture pays. It is of special value in this connection to note the direct safety work, in the form of the prevention of mine accidents, which the Government Bureau of Mines is carrying on. About 3,000 miners are killed every year. To overcome this the Government has in operation six mine-safety stations, and seven or more mine-safety railway cars, both fully equipped with breathing apparatus, fire-fighting apparatus and materials for first aid to the injured. These are presided over by a mining engineer, who has under him a corps of highly-trained miners.

Two fundamental safety lessons that should be taught to every engineer of whatever type, so that they may be given wide dissemination, are: (1) that nothing man has made or designed is absolutely safe, though it bears all the marks of safety; (2) that the product of the engineer, even though it be the safety engineer, is only safe in so far as he considers the training of the men who ultimately will use it. The *Titanic* disaster with its toll of 1,517 souls and the loss of millions of dollars is the big outstanding illustration of the first lesson. It was thought that "double hulls and transverse bulkheads would make great vessels safe even against the shock of collision with an iceberg." Although flaws have since been found in the construction of the then safest floating palace on the bosom of the ocean, it cannot be denied that it was considered invulnerable and safe in every sense. Professor Fessenden's discovery in the construction of an oscillator, we trust will add to the safety of ships in fogs, when coming in contact with icebergs or with obstacles under water. This truth needs also to be sounded in industrial plants, where the very multitude of "Safety First" signs is likely to cause carelessness, instead of promoting caution. The second lesson can be illustrated in an accusation that was made against B. F. Isherwood and his work on the vessels employed in our Civil War. He was accused by an "office engineer" of building engines that were inordinately heavy, which charge he never denied. But he realized what his accusers did not—that these engines had to go into the hands of men who were largely untrained and unfamiliar with machinery. This was the highest proof of his talent as a designer. Of him it was said: "He had the courage to invite

criticism from a book engineer that he might insure success to his country."

How shall we proceed to inculcate safety lessons in the curriculum of the student of engineering? First, by making every engineering school a depot for the reception and distribution of the weekly bulletins, illustrated literature, safety rule books, etc., of the National Safety Council; second, by having frequent safety lectures by members of the faculty as an integral part of the regular class lectures, and also by bringing in experts on safety work from time to time; third, by carefully safeguarding with up-to-date safety devices the machinery and equipment of the school shops and laboratories, and by posting the familiar "Safety First" signs in the most conspicuous places; fourth, by urging the organization of "Safety First" clubs as a form of student activity not exactly in the curriculum; and fifth, in institutions where fraternities are permitted, to suggest to a number of "live wires" the room in college life for a fraternity founded upon safety principles as the newest type of the real brotherhood of man, in short, to make the student a safety enthusiast, in the sense of one of the National Safety Council's recent bulletins: "The enthusiast in the safety movement is he who knows he is working along broad humanitarian lines. He is aware that safety does not consist of a few speeches, a splurge of ink, and a moving-picture show. These things help, but they will not suffice to pull men from the careless "danger habit" of years. That takes time, thought and constant effort. Above all, it must be considered that when indifference comes in at the door, safety flies out of the window. The fact makes plain the need for constructive enthusiasm, which is simply enthusiasm plus brains."

In conclusion, there is an imperative reason for emphasizing the need for an enthusiasm for safety among the students in our engineering schools. Not so much, as might be hinted, that our young engineers come out of school and find themselves unable to compete with men of their profession, whose education was acquired in the College of Experience and so of necessity are safety men. It is a great deal more vital than that. But rather, just at this time, that the trend of our industrial history and our national honor demand it. The unsettled conditions of Europe have the tendency of opening our markets for world-wide buying on a very much

more magnified scale than we have ever known. If we are to hold industrial or commercial or, in a sense, humanitarian supremacy, in accordance with the experience of a nation that led, we must reduce to a minimum the waste occasioned through industrial accident. We must live down the criticism that "what Europe saves, America often destroys," and learn to appreciate the fact that "every life saved is a national asset." This can be attained in the largest sense by the co-operation of the engineer and the worker in the industry on the common plane of safety.

I was exceedingly glad, my friends, as I sat here, to see Mr. Meeker handle the meeting.

The first speaker of the Economic Session is Miss Ida M. Tarbell, whom we in Pennsylvania and whom we in the United States have learned to love for what she has done for the people in the mining districts, and for what she has accomplished for community centers. I have great pleasure in presenting to you Miss Tarbell. (Applause.)

✓ MISS IDA M. TARBELL (New York): I feel almost as if I should apologize for having consented to come here this afternoon. I knew that you were a body of experts. I hardly know your language. I presume that if I were to go to one of your Round Tables I should not know what you are talking about half the time. And yet this subject to which you are all devoted, this subject of safety, has become, because of what I have seen of the result of your handiwork, one of my real enthusiasms.

The business of the journalist, and I know we are not always held very high by experts, is to look about the world and to see the good and evil tendencies and to report upon them, and one of the tendencies which I have been most enthusiastic about during recent years is the tendency that I seem to see in this safety work of yours, the influence it must have upon the community at large. I take it that the world has been very largely governed by things that were not so, and this is natural enough. Men have to have an explanation for the exercise of phenomena which they meet in the world, and if you are ignorant you work out the best explanation you can, and all through the ages men have been working out explanations of things that have affected their lives.

For instance, disease. It is only within a comparatively recent time that disease has been treated with any kind of essential ex-

planation. Disease, men not knowing its causes, they took as the visitation of the wrath of God. Go down in some parts of eastern Kentucky and Tennessee today and if babies die, mothers and fathers and the Job comforters, all about them, the ministers in the pulpit, will tell you it is because the parents have sinned or they have done something which has brought down upon this poor little baby the wrath of God. You tell them the baby died because the milk was impure, and they think it almost an impiety on your part, so little do they know of the scientific cause of disease.

OVERTHROW OF SUPERSTITION ABOUT DISEASE.

What is true in Kentucky today is true in all ignorant communities, was true pretty nearly the world over a hundred years ago. An epidemic of typhoid fever in New York City one hundred years ago would probably have been interpreted by the great mass of people as the visitation of an angry God. Yet we have learned through centuries and through study that there are causes for disease, and one of the most inspiring things in the world has been the overthrow of this old superstition about disease. We need not be sick. We need not suffer epidemics. It is only our ignorance, our failure to obey laws, which is being very rapidly worked out. We have even come to have a vision. You have it in industry, you gentlemen, a vision of a perfectly healthy industrial body. We have it in our municipality, a perfectly healthy city. That is not an unreasonable thing we are saying. We do not do it yet, because we do not know quite enough. But we no longer say it is necessary. We are going to find out more. We are going to put into operation the things that we know. We are no longer going to permit babies and workmen to have all the evils in the calendar in their bodies. And, you, gentlemen, as one of the by-products of your safety movement, are helping to spread the idea. That is, we have broken down an old superstition in regard to disease, and the courage and hopefulness and the wider outlook on life which that has given us are almost indescribable. You and I cannot think of it. A healthy body of workmen, 10,000 men that have none of those terrible ills, a city health giving, living out its life, every man and woman of it. A season has taught us that that is a thing that we can work for.

ANOTHER PASSING SUPERSTITION IS THAT ACCIDENTS ARE
INEVITABLE.

Now something that has gone on in regard to disease, is going on in this country through the efforts of you, gentlemen, in regard to safety. Accidents have been regarded very largely as diseases once were. There has been a superstition about the accident. It was something inevitable. It was fate. You know how all the old-fashioned workmen talk. If he was a pious workman and he lost his leg, he said it was God's will. If he was not a moral man he said it was coming to him, and the man beside him said: "I am going to get mine sometime." That was the way workmen talked generally fifteen or twenty years ago. And the man at the head of the factory or railroad had the same attitude. "Well, accidents are unavoidable; that is one of the prices we pay for progress." Blood, shattered bodies, that was the price we were paying for progress, and the public agreed. We were all apathetic. We said, "Well, we cannot build a great community, or railroad or factory or have mines, we cannot get rich, we cannot develop, without a blood toll." And we accepted it. Now, you, gentlemen, have broken with that superstition. You have said accidents are avoidable. Accidents are the results of ignorance or the results of greed, or the results of carelessness, or the results of some controllable cause or element, and you set out to find what those causes are. Let an accident happen in the street railways of this city, or on Mr. Richard's road, and you have a whole body of men after that accident. You are tracing it down to its source. What did that? Was it some mechanical trick? Was it a careless workman? Was it the fault of an indifferent pedestrian or one person or another's carelessness? You find the cause and then you go after that cause, no matter what it is. You not only tackle the material cause, but you tackle the human element of psychology and you say these things must be avoided. That is one of the great certainties of the safety movement, removing the superstition that everything that is done in this world must have a blood toll, that industry is a terrible Juggernaut crushing men and women in order to accomplish things. It is like the old gods, who, before they would give anything demanded that you should pour blood on their altars. You put that all aside as a superstition.

ESSENTIAL PROGRESS VS. SUPERSTITION.

Now, the relieving of the community of a superstition like that is one of the greatest services that you can do. It is like taking the shackles off a man's wrist. It is like taking a weight off his heels. He walks free. He believes more in life when he finds that all of these things which have been so dreadful to him, which have been hanging over his head all the time, which he has accepted as inevitable, are not inevitable at all, that they are things that he can stand up against like a man and fight. You have substituted essential progress in regard to accidents for superstition, and that is a great advance. It is an advance in this way in your industry and in the community where safety makes a universal movement as I know you are trying to make it everywhere. It spurs the intellect, makes men think. One of the great educational results in a community, in any body where safety goes on, is the way it spurs the attention. I am accustomed to thinking of safety as standing on two legs; one of those is the attention of the public concerned.

You know, every one of you, in your industry, how difficult it is to make men use the devices that you give them, to keep the protectors on the buzz saw. We are always stumbling over things and hurting ourselves. They are falling into things or off things. I suppose it is true that the great mass of our accidents have very little causes, and if you trace them back they are due almost entirely to the inattention of the person injured.

SUSTAINED ATTENTION.

Now the safety movement says, "Pay attention." That is the one thing you educate men to do. You must make them understand their part in the movement. It will only come if they are active. Use your eyes; use your ears. It is a fight on sluggish intellect by dull working men, a great education on that one point of attention. William Jessup says that the best educational system that men will ever devise will be that which will cultivate, will train men, to sustain attention; that if you have got sustained attention you have got an educated man, a man who can do things. We all know—those of us who have done anything at all in the struggle—that we have had to keep our minds over a long stretch of time on this particular problem. You cannot have safety in your shops

without this sustained attention. It has got to be the habit of a man day in and day out. He cannot be attentive today and inattentive tomorrow. It has got to be sustained attention. You are educating that man to one of the most important mental functions that exist. If you can (as many of you I know hope to) extend this education to school children, you are becoming a great educational institution.

ACTION IS THE RESULT OF CENTERED ATTENTION.

Out of attention to that come most important operations. Just the moment you begin to see the danger you begin to act. Before I knew anything about this safety movement, I knew a banana peel on the sidewalk was a dangerous thing, and I would take care to avoid it, but I rarely would pick it up. I always stop and pick them up now. I cannot help it. I remember what I have seen in your faces. My attention has been called to the danger element, and to act. That is exactly what you are educating your men to do and what you want to educate the community to do—act; and they will act, for action is the result of centered attention.

IMPORTANCE OF SUGGESTIVENESS.

Moreover, there is another thing that becomes very important in the community, which comes out of the arousing of this centered attention, and that is suggestiveness. You set their minds to work, and when they see an accident such as Dean Connelley has just told us of with a door in a car, immediately they begin to figure out how that could have been avoided. Now I think there is many a safety expert here who will say he has had that experience with the men in the shops. When they once begin to see those things they say, "If we had done so and so we could have corrected that." That is, you have stimulated men to action and to suggestion. And when you have done that you have educated a man. And that is the possible effect on the community of this thing.

SOCIAL EFFECT OF THE SAFETY MOVEMENT.

Now these are educational effects. But there is a class of effect that is very important to my mind, and that is what is called the social effect of the safety movement. I take it that most of the suffering and misery in this world comes from indifference of some-

body to the need of the man inside. We have thought very little of the other fellow. This is a tremendously individualistic nation. We have been an individualistic nation. We have said, "Well, if I do this thing, then I have done my part, and the other man must do the same, he must take care of himself." We have this illustrated in business, of course, but we have it illustrated in our own person. Take the automobile. The pages of the daily newspapers in New York are among the most barbaric reading that we have, because daily they record the deaths of women and children and innocent men through the thoughtlessness of automobile drivers. The automobile owns the road. I am one of the few people left in the country who get pleasure in driving a horse, and I am never driving a horse but that I feel that there is a large portion of the community that feel I have no place in this day and generation. "Get off the road." That is the spirit with which they come. "You don't belong here." Now the safety movement says right along, "You must take care of the other fellow. You cannot injure yourself without possibly injuring many others. His life is in your hands. No matter how humble you are in this industry, the lives of all the men on the floor may be in your hands." That is what you say all the time.

"YOU MUST LOOK OUT FOR THE OTHER FELLOW."

I have been very much interested in the safety bulletins of the Illinois Steel Company and the very terse and forceful way in which they have driven home this idea that you must look out for the other fellow. That is not simply your business, it is the business of everybody. Now, this is one of the great aims of society—to get us all to looking out for the other fellow, so that the whole thing will work smoothly. The great way in which this is done, of course, is through the principle of co-operation, and I think one of the greatest things that safety is doing in this country is impressing upon the public the vital necessity of co-operating if you are going to get anywhere. The whole result, the whole explanation, the keynote of this whole thing is more perfect co-operation. They tell me, those who have studied results in different industries, that while one-third may come from safety devices, the other two-thirds is organization. To my mind the great contribution that the steel corporation has made to the safety

movement has been through this matter of co-operation. I won't enlarge on it, for I see my time is up.

MEN AND WOMEN SHOULD NOT BE SACRIFICED FOR ANY RESULT.

There is another point that seems to me very profound and very important, and that is, that as one goes on in the safety movement one begins to look differently at human beings. Life becomes a precious thing. You get some idea of the sweetness and the sacredness of life, and when you have caught that, you are not willing to sacrifice men and women for any result. You say, "We must have some other way of settling our quarrels; we must have some other way of getting on in the world and progressing and winning wealth; we must have some other way of winning culture; we must progress not by the sacrifice of human life." Supposing the nations could see that as you safety men, begin to feel the sacredness of this thing, and say, "Why, when we sacrifice men it is because our bungling of it is a sure proof of our own incompetence." Do you think we should have such an exhibition again as we have on the other side of the water now? The great business of those of us who believe in peace, who believe in a world where industry shall go on peacefully and prosperously, is to fight militarism, and I don't know that anybody is putting a surer sword into militarism today than those who are, like you, spreading a sense of the sacredness and sweetness and hope of life.

THE CHAIRMAN: I feel very sorry indeed that more people in this great country of ours have not been able to hear the remarks of Miss Tarbell. I trust that in her articles which she is preparing to publish on "Safety First," and about the welfare of the communities of this country that she will repeat with her pen what she has said here this afternoon.

I know no one more fitting to discuss this subject than Mr. James B. Douglas, the manager of the claim department of the United Gas Improvement Company of Philadelphia. Mr. Douglas spoke this morning as to what they were doing in his Local Council; and, knowing his company as we do; what he is doing in Philadelphia, and in the Philadelphia public schools, I am sure that he is very close to this welfare community work in "Safety First." Mr. Douglas.

MR. J. B. DOUGLAS: Mr. Chairman, ladies and gentlemen:

There are several comments in which I hope to interest you.

Miss Tarbell has said: "The march of civilization is measured by the way men look at disease and treat it." Among other things, is it not also measured by the attention given to the prevention of accidents? The effort made generally nowadays to make both industrial and community life safer, is constant and continuous, and the results are improving daily.

Industrial accident prevention reaches far out into the life of the community. Those who are making it their daily work, in the rush of things seldom realize that the results mean more than freedom from injury to the employee, and uninterrupted service and the avoidance of expense to the employer. Safety work goes further. Its good effect is felt throughout the community—it helps to free the home from misery, suffering and worry, all of which enter along with accident disability and disturb its peace. Accident disability goes even further. It affects the business of the small merchants with whom the family deals, by lessening the purchases and causing payments to be slow and often long delayed. The effect is also felt by public institutions in the way of increased expenses, causing calls on the State for additional support. It is therefore evident that the community itself should do all within its power to boost the safety movement.

We will hear at this convention of the splendid results of industrial accident prevention work. Community life is enjoying results equally gratifying through other forms of accident prevention work—for instance, the Safe and Sane Fourth movement, now national in scope; the better regulation of traffic on the public highways of our cities, small and large; and the entrance of safety work into the schools, which is being followed, in Philadelphia at least, by education on Safety in the Home.

From a statement accredited to the Journal of the American Medical Association, I learn that the 84 principal cities of the United States have experienced a remarkable decrease in "Fourth of July accidents" during the last five years. A decrease of 58% is shown in the number of those killed, and a decrease of 53% in the number of those injured. In our five largest cities, according to the same authority, there have been during the last five years decreases of

35% in the number killed and 44% in the number injured in Fourth of July accidents.

Accident prevention has taken a permanent place in the march of civilization. Indeed the prevention of disease, the prevention of fire and the prevention of accidents are in the vanguard of progress. The more we hear of each, the more are we amazed that they were not years ago the centers of successful effort that they are today.

Fatalism with regard to accidents among workmen is fast on the decline. Accident prevention is its nemesis. We now find workmen not expecting the time to come when they will be hurt. They are encouraged by the records of men who have served through long periods of time without accident. In the employ of our company today are at least three men who have served over 40 years without being injured or causing injury to others while at work. These records combat fatalism and superstition. Similar cases are doubtless to be found among employees of other companies represented at this meeting.

Although the feeling that accidents are unavoidable continues and will continue to exist, as we all know, safety work has become a permeating influence with many who demonstrate their interest in their fellow-men by promoting safety for all. They are daily proving that avoidable accidents are in the majority. This surely has much to do with the brotherhood of man.

Each accident occurring nowadays means an investigation, and a fixing of responsibility—as well as a self-examination on the part of the man in charge. This and the close accounting due in no small measure to workmen's compensation laws, are fast helping all to reach the minimum of accident frequency.

Attention—sustained attention, commonly known as concentration—of course plays a most important part in safety work, and inattention and thoughtlessness are main points to be attacked and eliminated. If through our safety rallies and campaigns we continue or sustain the interest aroused, we will have made great strides in the cause. We will have impressed the value of care upon the men and inculcated in them the "prevention spirit," the most important step in the work.

In this connection it may prove of interest to tell you that a recent analysis I have had made of a thousand industrial accident cases to gain some idea of their relation, if any, to the time of day, showed

the peaks to be around ten o'clock in the morning and four o'clock in the afternoon, within three hours from starting and of resuming work. If the workmen had sustained their interest, I think it may be fairly said that increases in accidents of 50% between 8 and 10 a. m., and of 30% between 2 and 4 p. m., both of which the analysis showed, would not have occurred.

As Miss Tarbell has said, the safety idea affects the mental habits of men, and in several desirable ways: They are more on the alert, they see more and they suggest more. The exercise of these powers increases their general efficiency, particularly when they are encouraged through seeing their suggestions carried out with the resultant saving. During the first six months of 1914 the United Gas Improvement Company's experience showed 16% less accidents than during the same period of 1913; and on the same basis of comparison the costs were 18% less. This is without taking into consideration increases in men employed and in "make."

It is a fact that we cannot have safety without co-operation. Co-operation is the keynote of success in preventing accidents and, as Miss Tarbell has suggested, the results are poor, regardless of money spent for devices, for supervision, for constant and intelligent efforts to improve machines and processes, unless the employer has the co-operation of the men in the ranks. In fact, co-operation is essential from the top down. It is the first object to be sought in any safety movement.

Surely we can see no greater single "gain for civilization than a universal opinion" (followed by intelligent action) "that men are too valuable to kill" or injure, and that every effort should be made to lessen the annual accident toll. The greater the following in the cause of safety, the greater and the more general will be the appreciation of life and limb, and the nearer will be the goal of Universal Safety.

When the real value of life and limb is universally appreciated, militarism and war and slaughter will be absent, and prevention will be the order of the day.

THE CHAIRMAN: Going now from Pennsylvania into Ohio we have Mr. D. R. Kennedy, special agent for the Youngstown Sheet & Tube Company, who has taken great interest in this Safety First movement, and who has been in Chicago before to talk to Illinois

people about just what they should do. I know we shall listen with a great deal of pleasure to Mr. Kennedy while he reads his paper on "Efficiency in Safety Work."

MR. D. R. KENNEDY: Mr. Chairman, Ladies and Gentlemen: This title appears at first glance to be a paradox, for the reason that we all have been wont to reverse the order, and speak of increased efficiency as a result of safety work, oftentimes overlooking the fact that safety work was and is as amenable to the application of principles of efficiency as the operating department itself.

It is the history of every new endeavor that the highest efficiency was reached only after diligent and prolonged study of the problems presented. We laugh at the crude methods of the original manufacturers of every present-day necessity and commodity, and mark with astonishment their slow development. Since the creation of the only finished and perfect thing, when the Greatest Architect and Builder turned the earth over to man, we have never developed a human who gave to the world any finished or perfect thing, or method. Wonderful as a radically new mechanism or process seems at its birth, it always is improved upon in some manner, by some one. And so with the safety movement, which is even now in the process of evolution.

Now that the star of the safety movement has firmly fixed itself in the public eye, the usual number of applicants are allying themselves with Peary, Cook and T. R., as original discoverers. We who are affiliated with the movement know that "Safety First" dates back to an era preceding any chronological record, and it is only with the advent of the last half century and its marvelous advance in manufacture, swift locomotion and fast living, that a collective effort has been necessary for the conservation of the safety of the individual. In short, the individual is no longer able to take care of himself under all circumstances, in the complexity of modern life and manufacture.

The first efforts toward safety came about through a subconscious thought of efficiency rather than of humanitarianism. Some person or persons saw the economic waste incident to accidents and their results, and having seen such a light, started out at random to diminish the number of accidents. In the early days this was

supposed to be practically impossible, by operating men, who by long practical training had come to believe that "accidents are bound to happen" and that their number depended only upon the whims of the goddess of chance.

The pioneer had the usual difficulty of the prophet in getting any real assistance from headquarters, and while his enthusiasm lasted he kept unremittingly working, studying and planning. He was finally allowed perhaps to install a few crude mechanical safeguards over the most glaring of the dangerous situations. These were awkward probably, inefficient perhaps in the light of present-day practice, and worst of all, installed against the wishes of operatives themselves. A few signs were put up calling attention to dangerous places and practices, and the man with the safety germ retired under jibes and sneers to his retreat to await results. They came, slowly but surely; diminished number of accidents, increased production on certain machines, veiled and half-hearted compliments and assurances of co-operation, and finally, but oh! such a short time since, comparatively, came the surrender by the management and organization to the safety movement.

Having surrendered and having authorized a campaign, the management demanded tangible results on a larger scale. They demanded efficiency.

The safety man, whatever his title or position, was overwhelmed at his victory, and he found his primary ideas were meager indeed to cope with the problem in its new magnitude. Undaunted he set to work, and his theories were subjected to practical tests. He patched, changed and experimented. He watched other pioneers, and took junketing trips through other plants where he found the same problems presented, and there he talked with the safety man, operatives and management, and all the while the germ was multiplying throughout the industrial world.

It was soon apparent that mere mechanical appliances, safeguards, printed rules and signs were only a beginning, and safety men came more and more to the realization that the greatest problem lay in the education of the workmen, as after every possible mechanical danger zone had been guarded, the accidents still happened, or if less in number they were not diminished in proportion to the actual safeguarding accomplished.

Gradually it became vividly apparent that the only chance for efficient safety work lay in getting the co-operation of every workman; in making him an assistant safety director, and it is unnecessary before this congress to outline the many and varied means that were used to obtain this end.

While we today have much reason to be proud of the striking advance made and results obtained, and while the goal to be attained seems to have assumed a hazy shape and form in the distance, we must remember that we are only pilgrims in the quest, and that our province is to keep unremittingly at the task we have assigned ourselves, of making industrial life as free from accidents as is possible.

What constitutes the highest type of efficiency in safety work is of course a debatable question and has been often debated by the members of this very assembly. It is largely a question of safety organization and very few industries agree in all the details of their organization. To obtain efficiency it seems to me that there are several cardinal principles to be kept in mind as anchor stones. First and foremost, you must have a safety director, call him by what name you will (and this applies to any concern employing 500 men or more), who devotes his entire time to safety. Give him as many assistants as the volume of the work requires.

Much depends upon the qualifications of this safety man and he should be picked with the same care as any head of a department. Nowhere does a man need a greater and more varied array of qualifications, of which tact and diplomacy come first and foremost.

Probably the most favored next step in organization for efficiency is a general safety committee, consisting of from three to seven heads of departments and including the safety director. Under this committee there should be appointed department committees, upon which the workmen themselves should have the majority representation in order that they be made to feel their interest and importance in the organization.

Suggestions from these or other sources should be incorporated in written safety requisitions and referred to the head of the safety department for authority. All requisitions should be filed in numerical sequence upon a "tickler" and checked up by the safety department until properly disposed of as completed, changed or refused.

The cost of installation should be kept upon each requisition when completed, so that totals may be struck off for given periods.

The safety and accident departments should be very closely affiliated and should co-operate as fully as possible. Each serious accident should be carefully investigated by the accident department and the investigation analyzed with a view of determining the responsibility therefor; whether carelessness of injured, of fellow employee, dangerous place or practice, and a remedy suggested if possible. This report should go to the safety director for an independent investigation and from both he should make his recommendation or safety requisition.

The doctor or surgeon, especially if you have your own, should keep a complete detailed report each month, of the number of days disability due to accidents, by departments, and a careful analysis of these by the safety director gives him a good line on the effects of certain types of injury. For instance, if it is discovered that in a certain department 45 per cent of the disability in days lost was occasioned by eye injuries, the safety director has some fixed point from which to work, and much good has been accomplished at one plant in this way.

Upon the theory that "an ounce of prevention is worth a pound of cure," we have adopted the pre-employment medical examination of applicants for employment, and with startling results. We are enabled to reject the totally unfit and to so assign the others as to fit them to the job. The result of the experiment is interesting and full enough to warrant a full paper on the subject.

Another measure for efficiency is the mental test or examination, especially for green foreign labor. We must remember that the average immigrant applicant for employment knows less than nothing about such machinery as we operate. Many of them have never seen our most simple form of machinery and have plowed with a sharpened stick, to which the wife and a cow were hitched for motive power, while they threshed their grain with a flail. The United States Government, through the Immigration Station at Ellis Island have certain simple tests consisting of simple stock questions in the man's own language and two or three "puzzle boards," which are in reality the most simple geometric figures cut to fit corresponding holes in a board; the applicant is advised to place the pieces or figures in their proper holes, and while it is

indeed pitiful to see the attempts of men 20 to 50 years old attempting to put a square block in a round hole, it is a revelation to a person interested in this safety problem. The United States surgeon in charge told me that his four-year-old daughter had successfully completed every one of the tests without the least hesitation. Some of these men who partially fail or who are painfully slow are passed into the country and eventually enter our employ. We send them among and around our noisy, whirring, complicated machinery and wonder why we have accidents. Is that efficiency in safety work?

Sanitation and hygiene have never had their due place in safety work. An unhealthy, weak or sluggish body gives a weak, torpid brain incapable of safe work or self protection. Watch the drinking water, and the disappearance of stomach, bowel and cramp trouble will repay the money cost of proper installation with interest. Do not have toilet facilities which are far distant from, or offensive to, workmen. Delayed use of toilets means impaired efficiency and hence more accidents.

To attain real efficiency, *keep the men interested*. This means work and novel ingenious methods of sustaining support and enthusiasm. No one safety man can think of enough "stunts" to run 365 days a year, and we must co-operate through the medium of the weekly distributions of this National Council, and we should all be more liberal with suggestions that have been found helpful in our experience.

We hear of increased efficiency on every hand, in every line of endeavor, but mark you, as I said in the beginning, the resulting 100 per cent efficiency is attained only after years or decades, or even centuries of labor along certain well-defined lines.

We must not be too impatient for the millennium, for we are daily, hourly, increasing the efficiency of our chosen endeavor, but there is so much to be done, and we start, so to speak, at a tangent, without fixed standards and largely upon our individual initiative.

We must standardize appliances, signs, practices and even laws, we must educate the poorer classes of Europe who, by a mistaken policy of our generous government, are allowed to flock to our shores in a majority of cases totally unfit mentally to take up the sort of work that they elect or are assigned to.

We present statistics showing our reduction of accidents which are often, to say the least, misleading. To my mind, to say that

for a corresponding month or year the number of accidents was decreased means little or nothing. This data should be based on a standard of plant days worked, and plant days lost. For instance, if the blast furnace department for June, 1913, employed men for 18,000 plant working days, and suffered through accidents 300 days disability of employees, when figured on that basis we have something tangible as a standard. It means nothing to say that the number was reduced, because the employment varies, as does the nature and extent of injuries. I have seen two months vary 100 per cent; for instance, a department for a year may decrease the number of accidents from 50 to 25, but the 25 may occasion twice the disability in days of the 50. Deaths should be charged arbitrarily so many days and total permanent disability so many days, and then when statistics are presented we know just exactly what has been used as a standard of computation.

We must systematize the safety work and reduce it to a commercially efficient basis, at least on one side, if for no other reason than to convince the world that it is more than a hobby, more than a campaign of financial retrenchment, but that it should take its place in the plant cost department with as much weight as the payroll account. And, last but not least, we must not overlook that other efficiency, which, thank God, keeps most of us at this work, that inner voice of commendation and the feeling that while you may not have accomplished all of your dreamed achievements you feel the breath of efficient safety organization and results almost upon your brow.

THE CHAIRMAN: This paper will be discussed by Mr. George T. Fonda, engineer of Safety and Welfare, Bethlehem Steel Company, South Bethlehem, Pennsylvania. They are doing much at Bethlehem; and we owe a great deal to folks in Pennsylvania because they in the east and we in the west trust that ere long we shall have something worth while to give to this Council. Mr. Fonda.

MR. GEORGE T. FONDA: In discussing Mr. Kennedy's very excellent paper I do not propose to say anything that would in any way tend to disrupt the very concise ideas that have been left with us. We all need encouragement and renewed vigor to rightly advance this great cause for which we are striving, for surely the most optimistic safety man must at times feel the enormity of the task he has before him, but realizing that we are "pioneers" in this

great movement, we certainly cannot help being amazed at the tremendous strides which have been made.

Mr. Kennedy has said that "the first efforts towards safety came about through a subconscious thought of efficiency rather than of humanitarianism." Doubtless there are many to whom such a statement would not apply, but there are countless others that would never be drawn into the movement because of its humanitarianism. We might wonder whether or not such conditions would retard the progress of the general propaganda, and to that I would say there is no obstacle which cannot be surmounted to the betterment of the cause.

I do not believe it would be very difficult for anyone in this audience to recall a specific instance wherein the consideration of "Safety First" has brought them in touch with a situation within their organization which was not exactly good economy or shall we say Efficiency Engineering. To make this point a little clearer, permit me to cite a concrete example with which I happen to be familiar.

At a certain plant where considerable heavy grinding was being done it was discovered that improper collars were in use on the grinding wheels. The operating man in charge was questioned regarding this practice and he explained that it was absolutely necessary to use small collars because of the short life of the wheels. It was explained further that the men in this department were held down to a certain production per day, and that if each wheel had to have several sets of Safety Collars the time required to make these changes would greatly decrease the output, and further it would be almost impossible to keep good men on this class of work because of the corresponding reduction in their earnings per day. An examination of the records disclosed the fact that some 18"x2" wheels had a maximum life of only sixteen (16) hours, while the average wheel lasted approximately fifty (50) hours. It had not occurred to this particular operating man that possibly he had not been using the proper grade of wheel. A few trials proved beyond any question that another grade of stone would more than double the grinding efficiency per wheel.

Further investigation showed that the old wheels had been operating at a constant speed which, of course, meant a disastrous reduction in the peripheral speed with a corresponding falling off of

the cutting energy of the wheel as the diameter of the same decreased. The 18" wheel which had a peripheral velocity of 6,000 ft. per minute had a little better than half this velocity at 10" and the wheel of course was being ground away by the steel instead of doing efficient work. It was a simple matter to change speeds at 14", 10" and 6", thus holding the peripheral speed at very nearly a constant velocity of 6,000 ft. per minute, and by so doing the efficiency of the wheels was again increased until an average wheel life of approximately 200 hours had been obtained.

Needless to say, the operating man in this particular instance was convinced that "Safety First" meant something to him and that it was not poor economy to use Safety Collars on an efficient wheel. It just happened that shortly after the Safety Collars had been put into service in this Department that a serious accident was prevented when a slightly used wheel broke and was held in place by the collar provided. You can imagine what this particular Department Superintendent thinks of "Safety First" now.

Is it not true that "Safety First" in many, many cases is synonymous with Efficiency Engineering? The simple little Safety Goggle as used by men doing various kinds of chipping is another shining example of this. I had a construction boss tell me that he had reduced the cost of chipping concrete approximately forty (40) per cent since his men had been required to use Safety Goggles. The time necessary to remove the dirt from workmen's eyes had been saved and the men worked faster and more efficiently in knowing that they were properly protected.

I wish it were possible for us to assemble together in one body all of the "Doubting Thomases" that have been encountered along the road and in the presence of such an assemblage hold an experience meeting on the subject of Efficiency Engineering as being developed through the medium of "Safety First." There is no doubt in my mind as to the overwhelming evidence which could be reliably substantiated regarding this point.

As Mr. Kennedy has stated before me, "we must not be too impatient for the millennium," but, gentlemen, there is no retarding such a movement as is symbolized by this National Council of Safety. Those that do not join our ranks because of their interest in humanity and the betterment of mankind, must sooner or later recognize the error of their ways and will be made to appreciate the

relatively poor efficiency of their respective organizations. They must join the ranks for the cause which is right or be hopelessly lost by the wayside.

THE CHAIRMAN: "Practical Results Obtained in Safety" will be discussed by Mr. H. W. Forster, Chief Engineer of the Independent Inspection Bureau, Philadelphia. Those of us who have had the pleasure of being associated with Mr. Foster know exactly what kind of a "live wire" he is. He needs no introduction to this assembly, I can assure you.

MR. H. W. FORSTER: Mr. Chairman, Ladies and Gentlemen: That we are here testifies to our belief in the cause of accident prevention. We have developed a strong faith in this humane cause. Our faith has not been put to the test of moving mountains, but I am not prepared to deny that it could. Some of the brethren in this assembly have worked miracles, and I have always assumed that mountain moving fell in that class.

It took courage to preach the safety gospel a few years ago, and when I had particular need of this, I turned to the old hymn:

"Once to every man and nation
Comes a moment to decide
In the strife 'twixt truth and falsehood
For the good or evil side.

Then it is the brave man chooses,
While the coward stands aside
Till the multitude makes virtue
Of the truth he has denied."

A hymn like this will nerve a man for a good fight—the pioneers in the safety movement fought many such. Like the pioneers in every worthy cause, they won out, and now their converts are legion. It might be mentioned, however, that there are still a few opportunities for skirmishes.

We know that once we get our less far-seeing brother on the anxious seat, the possibilities of back-sliding to ways of ignorance and indifference are few. There will be much evidence to this effect presented at this meeting. For my part, I shall hold forth with all the faith that is in me upon the practical results of safety

work, and do so from three points of view, namely, that of employee, that of employer and that of safety engineer.

The employee suffers the brunt of the inroads which industrial accidents make on life, limb, happiness, and economic stability. In spite of bearing the brunt, he has frequently objected to efforts in his behalf and has refused co-operation, largely because he has not seen the problem and its solution broadly as has his employer. Nevertheless, there are today thousands of employees in this country who are thoroughly alive to the advantages to them of safety work, and who are making practical results possible.

They know that accidental death almost certainly carries with it privation for their families—harder work for the women than they should do, meagre educations for the children, hopes for family development blasted, and handicaps placed on coming generations.

They know that lost eyes and hands and feet mean loss of most of the joy that strong men have, even in a life of hard physical labor, that opportunity of advancement is largely gone, that reduced earning power has much the same effect upon the family that death does, and that it may become difficult to obtain even poorly paid work.

They know that every day lost because of injury is a setback in the strife for things beyond the bare necessities.

The first step toward being a convert to the safety movement is the recognition of these facts, and the second is the realization of the ease with which a large percentage of the ordinary accidents can be prevented.

With such an attitude on the part of his employees, any employer is assured of practical safety results.

One of the principal objections to accident prevention has been that it interferes with production and, thereby, reduces wages. If this objection can successfully be met, the last defense of the reactionary workman is swept away. Intelligently planned and executed safety work seldom interferes with the output of the workmen—in fact, it frequently increases it because of reduced need of watchfulness and cautious actions at dangerous points.

Conservation of life and limb, preservation of income earning power, and better co-operation between men are practical results for the employee that follow safety work.

Every noble cause owes its success to some valiant man or men

who fought its battles and who gained recognition for it. Who was the original safety crusader is shrouded in mystery.

We can conceive of some ancient Egyptian engineer carefully working out on a piece of papyrus the accident prevention problems connected with the erection of a pyramid.

Safety work on the Tower of Babel suffered a tremendous setback when the safety signs became useless as a result of the confusion of tongues.

The Bible contains excellent safety precepts, one verse clearly calling for parapet walls around the flat house tops of those days. Owing to an oversight, presumably, it was omitted to call for a 2 cubit (44 inches) parapet, which would have accorded closely with our modern ideas.

The accident prevention problem which confronted an Italian engineer of the centuries gone by when he planned the construction of the Leaning Tower of Pisa, would undoubtedly stagger our very best engineering talent of today.

We are probably warranted in saying that safety engineering, like other subjects, is not new, but we realize that with the development of modern industry there arose the need of a degree of safety work never before approached. The modern employer has furnished the encouragement and the sinews of war that have made possible the successful attack upon the problem.

Why has the employer entered the safety movement? Because he foresaw practical results of several kinds.

He saw a reduction of human suffering and privation, and he recognized his responsibilities.

He saw better relations with his employees, better relations among his employees, longer years of service of experienced men, and less interruption of operation.

He saw the close relationship of accident prevention and the modern efficiency movement.

He saw the possibility of satisfactory financial returns on the capital invested in safety work.

The vision of the pioneer in the safety movement has been fulfilled—the employer of today builds on established foundations.

It is my belief that the pioneer employer in inaugurating safety work did so because of its humanitarian appeal. He unquestionably was surprised at the financial returns on his money investment.

So generally does accident prevention pay well from a dollars and cents standpoint, that the average business can undertake few phases of industrial development which will pay it equal returns. This has been true in spite of the fact that the majority of industries have, to a large extent, groped in the dark in developing their safety work. This situation, the National Council, most powerful of all agencies in the accident prevention field, is largely overcoming.

Serving humanity, establishing more pleasant relations with his employees, retaining his trained men, making for greater efficiency, and earning a satisfactory return on his money investment are practical results for the employer that follow safety work.

The late Major Stratton, in speaking of the qualifications that an insurance inspector should have, put the proposition in the following words:

- A man in perfect health.
- A man who never worries.
- A man who never rests.
- An expert architect.
- An expert construction engineer.
- An expert fire protection engineer.
- An expert in knowledge of manufacturing processes.
- An expert chemist and an analyst of hazards and causes of fires.
- An expert in ratings, also policy forms and conditions.
- An expert loss adjuster.
- A diplomat and a prize fighter.

If the fire inspector, representing an established order, needs these qualifications, what does the safety inspector, the preacher of a new gospel, need?

He requires a powerful belief in the cause which he represents to enable him to fight against the ignorance and indifference and shortsighted policies that he so often encounters. Managements that need leavening influences, operating departments that require conversion, foremen whose views must be modernized, and workmen who slowly see the light confront the safety inspector and try his mettle.

Recently an acquaintance of mine ventured to remark that accident prevention was not a subject requiring much erudition, and

that, through the medium of a bright young man in his office, he contemplated shortly entering the safety engineering field. I hope that my modest presentation of the few simple requirements which our profession makes of its members did not deter him in his plans.

Because of the engineering problems encountered, a technical training is a valuable asset.

The value of experience, always great, becomes particularly so in taking up a new engineering work which is based upon so many things.

A competent safety engineer must understand building construction, mechanical equipment, operating problems, labor conditions, sanitation, first aid, and many other things. He must know these subjects, not only in the sense of passing on existing conditions, but he must also be able to anticipate in the plan stage the conditions which later are likely to develop. The consulting phase of safety engineering is now an important factor in our profession.

Safety work almost always lays an additional burden on the operating department. The layer-on of these burdens must be a diplomat, if his path is to be smooth. No matter how excellent his cause, his success depends upon his ability to argue logically, persistently and pleasantly for the desired ends, to meet operating requirements and to secure co-operation all along the line.

A profession that makes of a man so many requirements and that, at the same time, holds out to him such opportunities of acquiring detailed knowledge of almost every phase of industrial life, as well as business and engineering balance, is a profession in which a man never reaches his goal and one in which the engineer need not worry about limited opportunity. The true measure of a work is its opportunity for constructive service, and by this standard Accident Prevention engineering is in the front rank of the professions. The man that gets results is appreciated, and a roll call at the 15th annual meeting of the National Council will show that many of the safety engineers of today have become the big men in industry and transportation of that day. It is no exaggeration to state that practical results for the safety engineer also follow safety work.

Mr. Chairman, if, after holding forth for 15 minutes upon the Practical Results Obtained in Safety Work, any of the ladies and gentlemen present have failed to be convinced, the fault lies largely

with the speaker, perhaps slightly with their grasp, but not with the SAFETY CAUSE.

THE CHAIRMAN: We regret very much indeed that Mr. Leschoier will not be able to appear this afternoon, but we have in his stead Mr. John P. Gardiner, assistant Commissioner of Labor of the State of Minnesota, at St. Paul. He has consented to read the discussion of Mr. Forster's paper in place of Mr. Leschoier. Mr. Gardiner. (Applause.)

MR. JOHN P. GARDINER: Mr. Chairman, Ladies and Gentlemen: Mr. Forster's paper is beyond criticism in its vision of the possibilities of safety engineering as a profession and its statement of the qualifications required of a safety man. It is a paper that will be of practical value to states and corporations contemplating the hiring of a safety expert. I will neither attempt to criticize the paper nor to elucidate further the points made in it. Instead I will endeavor to bring one more concrete proof of what *can* be accomplished by showing what *has* been accomplished.

In 1906 ninety-three men were killed in the mines of Minnesota when the total number of men employed was but 12,838. In 1914 forty-two men were killed, though 20,181 were employed. In other words, the fatal accident rate dropped from 7.25 per 1,000 men employed in 1906 to 2.71 per 1,000 men employed in 1914—a decrease of 63 per cent. This decrease has taken place by steady reductions of the accident rate through intelligent, purposeful safety work. In proportion to the number of men employed, it represents a saving of 144 lives annually in the mines of Minnesota.

But we are not forced to depend upon our mining industries for evidences of practical accomplishment in safety. The state labor department made its first systematic attempt in 1910 to count Minnesota's industrial accidents. Though no railroad accidents, except those occurring in the shops, are included, this first accident census showed 8,388 accidents, 251 of them fatal. With the railroad accidents added the total reached 10,343. The labor department and the employers of the state were astounded at this awful showing. We now know that the report did not record more than one-half of the non-fatal accidents that actually occurred, but it was sufficient to bring Minnesota's safety campaign into active life. The next year the fatal accident rate dropped to 191, or a decline of 60 in

fatal accidents in one year, and the average fatal rate for the last three years has been but 141, or 56 per cent of the fatal rate of 1910. We feel that a decline of 44 per cent in four years in the fatal accidents of an entire state is a record that should give even the skeptic courage. During the same period there was a decline of 32 per cent in non-fatal accidents.

In connection with these figures it is perhaps advisable to explain that while we now know that one-half or more of the non-fatal accidents which occurred in the state during the four years were not reported, it is certain that a larger percentage of them were reported in 1913 than in 1910, and the figures we have given understate rather than overstate the results accomplished.

A decline of 63 per cent in eight years in mine accidents; a decline of 44 per cent in four years in an entire state's fatalities and of 32 per cent in injuries—this is what Minnesota has to evidence respecting "Practical Results in Accident Prevention."

At the risk of repeating what many of you are already familiar with, I want also to call your attention to the practical results that have followed safety work in certain steel plants of the country. Volume 4 of the recent report of the federal government on conditions in the Iron and Steel Industry states that sixteen plants which employ more than 1,000 men 300 days in the year were carefully classified according to the degree of attention which they were giving to safety work. Six plants with well developed safety systems were put into class "A," five plants with partially developed safety systems were put into class "B," and five plants where safety received but little attention were put into class "C." An examination was then made into the accident experiences of the plants in these three groups, and it revealed that the number of accidents in 1910 for each thousand workers in class "A" was 167.1; in class "B," 272.4, and in class "C," 507.9. The accident rate of the best plant in class "A" was 115.9 per thousand; that of the worst plant in class "C," 615.7. In other words, 500 more working men per thousand were hurt in 1910 in the class "C" plant than in the class "A" plant—truly a terrible indictment against some board of directors. The accident rate of the worst plant in class "A" (237.2) was better than that of the best plant in class "B" (239.6), and the rate of the worst plant in class "B" (302.3) was much better than that of the best plant in class "C" (403.1). A more conclusive

demonstration of the efficacy of safety work and of the possibilities of accident prevention in our industries could hardly be asked. The accident rate of class "A" is only 33 per cent of that of class "C," in spite of the fact that the conditions in the plants are absolutely comparable, and that nothing has been accomplished in the plants of class "A" which is in the smallest degree impossible in those of class "C."

STEPS TAKEN FOR GREATER SAFETY.

The safety campaign in Minnesota has taken three general lines: (1) Agitation, or the arousing of interest in safety; (2) legislation, and (3) increased efficiency of factory inspection. The state labor department, the Minnesota Employers' Association and the Oliver Mining Company have all been instrumental in forwarding the safety movement, and it would not be fair for any one of the three to claim entire credit for what has been accomplished. Nevertheless, the state department has necessarily been the leader and center of the movement, and its assistance has unquestionably been of considerable value to the private organizations. A three days' safety conference that was held in December, 1911, under the joint auspices of the Minnesota Employers' Association and the state labor department, and at which safety experts from all over the United States were in attendance and on the program, played a great part in arousing an interest in safety among the employers of the state, while a series of safety bulletins and safety regulations promulgated by the labor department and distributed by tens of thousands throughout the state, together with safety columns run in the weekly trade bulletins of the employers' organizations, have caused both a widespread interest in and increased knowledge of effective safety methods. The labor department has also accomplished a great deal by furnishing speakers on safety topics for all sorts of public meetings.

FACTORY INSPECTORS GREAT HELP.

The factory inspectors have also done a great deal to interest the employers in the safety movement, for whenever they encounter an employer who is antagonistic, or who seems to misunderstand the purpose of the safety laws and inspection, they are instructed to sit down and quietly talk over the matter with him and win his co-

operation. We have frequently had cases where our inspectors have spent as much as three or four hours in conversation with an employer, but before they have left him they have won a friend for safety and for state inspection.

THE CHAIRMAN: We are about to have a demonstration of the rescue crew from the United States Bureau of Mines by the demonstrators in charge of the car that is down at the La Salle Street depot. After this demonstration we shall have the moving pictures on mine rescue at Lick Run. Following that we shall have "The Lineman," and stereoptican slides, which will be presented by Mr. Victor T. Noonan, of Rochester, New York.

(The demonstration was then given and the moving pictures exhibited, and at the close the meeting adjourned.)

ROUND TABLE DISCUSSION.

The first Round Table Discussion at the Third Annual Safety Congress of the National Safety Council was held at the La Salle Hotel, Chicago, on Wednesday, October 14, 1914, at 9:30 a. m. Subject: Methods of Inspection, (A) For Maintenance and Use of Safeguards; (B) For Unsafe Practices; (C) For Observance of Rules. The following-named gentlemen took part in the discussion:

R. W. Campbell, president of the National Safety Council.

L. R. Palmer, chairman of the Round Table Discussions, and chief inspector of the Department of Labor and Industry, Harrisburg, Pa.

R. J. Young, manager of the Department of Safety and Relief, Illinois Steel Company, Chicago, Ill.

J. M. Woltz, safety director, Youngstown Sheet & Tube Company, Youngstown, Ohio.

J. E. Thiell, advertising manager, Manitowoc Shipbuilding & Dry Dock Company, Manitowoc, Wis.

Alexander Shane, Bureau of Safety, Middle West Utilities Company, Chicago, Ill.

J. D. James, safety inspector, New Jersey Zinc Company, New York, N. Y.

F. W. McKee, safety inspector, Fairbanks-Morse Manufacturing Company, Beloit, Wis.

H. B. Smith, safety inspector, Illinois Steel Company, Joliet, Ill.

R. C. Richards, chairman, Central Safety Committee, Chicago & Northwestern Railway Company, Chicago, Ill.

C. M. Brading, superintendent of safety, Wisconsin Steel Company, South Chicago, Ill.

J. A. Robertson, manager, Camera Works, Eastman Kodak Company, Rochester, N. Y.

M. A. Dow, general safety agent, New York Central Lines, New York, N. Y.

G. L. Avery, secretary, Avery Company, Peoria, Ill.

Dr. G. M. Price, director, Joint Board of Sanitary Control, New York, N. Y.

F. F. Smith, casualty agent, National Tube Company, Kewanee, Ill.

J. J. Heelan, supervisor of inspections, Aetna Life Insurance Company, Chicago, Ill.

W. H. Doolittle, safety inspector, National Metal Trades Association, Chicago, Ill.

W. J. Todhunter, superintendent, Illinois Steel Company, Chicago, Ill.

C. A. Gilkerson, secretary, Central Committee on Safety, Public Service Company of Northern Illinois, Chicago, Ill.

E. K. Prichett, secretary, Macey Company, Grand Rapids, Mich.

A. B. Maine, staff representative, *The Furniture Manufacturer*, Grand Rapids, Mich.

E. A. Meves, Excelsior Wrapper Company, Grand Rapids, Mich.

Dr. Donald McCaskey, company surgeon, Pennsylvania Railroad Company, Witmer, Lancaster County, Pa.

L. S. Baldwin, assistant superintendent, Struthers Furnace Company, Struthers, O.

George K. Gibson, Consolidated Water Power & Paper Company, Grand Rapids, Wis.

F. H. Graper, International Harvester Company, Milwaukee, Wis.

Dr. F. D. Patterson, director, Department of Sanitation & Accident Prevention, Harrison Bros. & Co., Inc.; the J. G. Brill Company and the Electric Storage Battery Company, Philadelphia, Pa.

Dr. Ben L. Reitman, Chicago, Ill.

The president of the National Safety Council, Mr. R. W. Campbell, having formally introduced Mr. Lew R. Palmer, Chief Inspector of the Department of Labor and Industry at Harrisburg, Pa., as chairman of the Round Table Discussion, Mr. Palmer assumed the chair and called upon Dr. F. L. Hoffman to enunciate the introductory pros and cons.

✓ DR. HOFFMAN: The pivot of the whole safety movement rests on the fact that the annual death roll through accidents in our industries is 25,000 men; that each year 300,000 more are seriously injured; and that 2,000,000 sustain minor hurts to the extent of at least one day's labor lost. The mere transmutation of these figures to a dollars and cents basis still falls far short of the true significance of such facts, because back of it all there lies an enormous amount of shattered happiness, and a hugely lessened efficiency

factor. But every cause has a corresponding solution; and this solution is evident in that every industry which has taken up accident prevention work—along the lines suggested by our president and laid down by the National Council—has shown a remarkable reduction in accidents. To be specific: The Lackawanna Railroad Company has reduced its accidents 40 per cent, with large possibilities of augmenting this percentage; the Southern Pacific Railroad has minimized its casualties 52 per cent, and the International Harvester Company has attained a reduction of 68 per cent—which means that since 1896 this company has saved 12,000 lives from very serious injury. As surely as you have the "principle" so you have the "solution"; and, above all, your work is worth while.

THE CHAIRMAN: Certainly, time and work must be expended in meeting the accident prevention problem. I now call upon a pioneer safety man to address us, Mr. R. J. Young, of Illinois. He will begin the actual program.

EDUCATION OF THE MEN.

MR. R. J. YOUNG: The first question before the Round Table is that of "Methods of Inspection (a) For Maintenance and Use of Safeguards." I am sure that the main point in the maintenance and use of safeguards is the education of the men, and the attainment of their interest in the work. Installation of safety devices presupposes their maintenance; otherwise a large percentage of interest is lost. Maintenance cannot be effected if the interest of the men is lacking, and in all probability much will be adduced today as to how such interest can be aroused. In our experience, we have placed education at 30 per cent of the problem; Organization, backed up by education, at 55 per cent, and safeguarding at 15 per cent. We all know the common points of the everyday safety committee; but this morning I hope to see the last development in safety taken up through the division of workmen's committees into sections with a man in charge of each section.

THE CHAIRMAN: Now that we have started, I think that we ought to apportion our time into hearing from individual States, and thus lose sight of the individual and the individual organization, for we are all here to learn. Co-operation is a basic essential of accident prevention work. Let us now hear from Ohio.

MR. J. M. WOLTZ: The maintenance of safeguards is something that we leave solely to our plant safety committees. Our safety department inspectors, who make daily surveys of all the plant, report to the department superintendents when they find any safeguards are at fault through improper fastening or improper placing. The use of safeguards is largely a matter of education; for, although safeguards may be duly installed, they will prove of little use unless workmen are educated to their maintenance and proper utilization. Organization is in general use throughout safety work. Although we have our central safety committee, and our division safety committee, we have as yet no gang safety men. The latter proposition is something new to us, and it will have our consideration.

MR. J. E. THIELL: Work at our plant is exceedingly hazardous, embracing as it does the building of steel ships, tugs, lighters and boats of all kinds. Our chief difficulty has been in getting the men to wear goggles. We realize that the reduction of eye injuries is largely a matter of education, and I am anxious to have suggestions from others on this subject.

MR. J. M. WOLTZ: At the splashing pots at our tube mills, where every man is supposed to wear goggles, a man, who claimed to have lost his goggles, was burned about the eye by a splash the other day. The day after, a notice appeared on the bulletin boards throughout the tube mill that this man had sustained a burned eye by reason of his failure to wear goggles. This notice, signed by the general superintendent, concluded by stating: "*If you want to save your job and eyes, wear goggles.*"

THE CHAIRMAN: As we do not desire to limit discussion to any one industry, will Mr. Shane please speak?

DEALING WITH THE MEN.

MR. ALEXANDER SHANE: Employees must be convinced of the importance of safety work, and I have accordingly found that the best method is to deal directly with the men themselves. At three recent meetings of one section of our employees, workmen said: "There is an opinion among the men that this movement is solely in the interests of the employer." To convince them that safety

work was really in the direct interest of the workmen, I cited the case of a workman who failed to live up to his promise to me not to take chances; and, as a result, lost his left arm, while the right was seriously injured. This man was taken back to the company's employment, but he now earns \$45 a month less than prior to the accident. Should he live to any age, he and his family will have lost, on a conservative basis, say \$19,000. The cost to the company was between \$2,300 and \$2,500. The company could afford to lose this, but the man and his family could not. The men must see that safety activity is a humanitarian endeavor in their own interest and that of the nation; and when the employee can realize this in its true light he will say "This business of preventing accidents is my business—I shall attend to it, and would like your co-operation."

MR. J. D. JAMES: At our plant, where there are 9,500 men, we have organized safety committees, two half-days weekly being devoted to meetings. During one half-day, we cover as much of the plant as possible, and the other half-day is wholly devoted to first aid work. All our members, some being foremen and some workmen, are drilled in first aid, bandages, resuscitation from electric shock, or from being overcome by gas. We also train the men to handle the pulmotor and oxygen helmet. Accidents receive immediate attention; the doctor and ambulance being called if necessary. Already we feel that we have interested the men to a great extent, inasmuch as when members of the safety committee go through the plant, the men call attention to dangerous places; and we encourage them to do this by taking the necessary steps whether, in our judgment, a guard is advisable or not. But, at all hazards, our experience proves that dangerous places must be rendered absolutely *foolproof* if the greatest possible percentage of accidents is to be eliminated.

THE CHAIRMAN: Now for a word from Wisconsin. Is Mr. McKee here?

CO-OPERATION FROM THE TOP DOWNWARD.

MR. F. W. McKEE: Our experience is that co-operation by every man in the plant is essential, from the top downward. We find that workmen's committees have helped us more than anything else; likewise the keeping of the men informed, through our bulletin

boards, of every movement we make in our accident prevention work. I should, however, like someone to give us a little advice in methods of educating the foreign laborer, as this seems to be the greatest problem at the present time.

THE CHAIRMAN: I think Mr. H. B. Smith, of the Illinois Steel Company, can take up this point satisfactorily.

MR. H. B. SMITH:—The education of non-English-speaking workmen is a large problem. In our safety department there are laborers who talk nearly all languages. When a new man assumes his work, and the foreman has given him a little instruction, one of these linguists then impresses upon the newcomer the necessity of being careful; tells him of the doctor's location; that it costs nothing to consult the medical man; and asks him if he understands what the foreman has told him as to the dangers of the machines at which he is to work. We are securing good results from these linguists. Moreover, we insist upon every man going through the safety rule book applicable to his department. Although many of the men cannot read their own or any other language and cannot write, they manage to assimilate the rules and are able to pass the examination satisfactorily.

THE CHAIRMAN: Now for another point in today's program, Unsafe Practices. Will Mr. Richards please open the discussion on "Methods of Inspection for Unsafe Practices"?

MORE DIFFICULT TO EDUCATE THE BOSSES THAN THE MEN.

MR. R. C. RICHARDS: While we have heard much this morning on the necessity for educating men and making machinery "fool-proof," nothing has as yet been said on the vital point of educating the employers and bosses. Strange though it may seem, my experiences have proved that it is more difficult to educate the bosses not to take chances than it is to instruct the men so to do. Herein lies most of the work; and when you have educated the "little boss"—the man who has charge of a small gang—the men will say "Because the boss does the work in a safe manner, that is the right way to do it, and that is the way we must do it." It is here, therefore, that we have to commence. It is not a matter of making machinery "fool-proof." Only 7 per cent or 8

per cent of our accidents arise through defective machinery. It is a matter of making the bosses and workmen *think*, because most accidents do not happen through what we term carelessness, but from mere *thoughtlessness*. Indeed the great risk that we are all running today is that of being injured because of the thoughtlessness of someone who is working with us. It is not correct to say that safety work benefits the workman alone, for it is just as much for the good of the employer as for the employees. Safety work has a wide economic basis, and every workman ought—from a standpoint of pure self-interest—to help to increase the efficiency of the plant. If only all of us could desist from doing things *automatically*, and think a little before and after, we would cut down these 2,000,000 accidents you have heard about.

MR. C. M. BRADING: To inspect for unsafe practices is all right so far as the safety department is concerned, but to get the necessary correction on the part of the boss is another item. For the head of a department to go, with a smile on his face, to a man who has been found guilty of unsafe practice or disobedience to rules, and simply tell him "not to do it again" is not the correct way to co-operate with the safety department after its inspection has disclosed unsafe practices or disregard of safety appliances and their use.

CHARTS AND INSPECTION REPORTS.

MR. J. A. ROBERTSON: For all our machinery equipped with safeguards, we make out a chart, regular inspection report, and the number of machines and places to be inspected. These are gone over weekly. Our inspector has an inspection-blank for each day in the week. All he has to do is to check this by his condition check. But—how are we going to check the inspector? Simply investigate once in a while to see whether or not he finds dangers. When this inspector has completed his work, we refer matters to the men. We pay them at least \$1 for each unsafe place or practice they bring to our attention. I may here indicate that in order to remove the impression that the inspector is a "spy" in the department, he does not put a man's first offence on the report, but merely calls the attention of the delinquent to the matter. If the case happens again, he warns the man that it will be referred to the foreman. If it is

necessary to bring the incident before the foreman, the inspector will probably say to him: "I find such and such a thing in your department; if it happens anew, I shall call it to the attention of your superintendent, for there is no safeguard in place." We also urge safety on our employees through slogans on our pay-envelopes. Last year we paid awards to our workmen ranging from \$1 to \$250. Ninety per cent of the workmen are honest in all plants, and if an employer can once convince them of his sincerity in the safety movement, that accident prevention is for the good of the employees, the problem has progressed a long way towards solution.

REACHING THE SMALL BOSS.

MR. M. A. DOW: I am much impressed by what Mr. Richards has said about the necessity for reaching the "small boss." One of the biggest problems is to impress such employees with the necessity, not only of refraining from unsafe practices themselves, but of insisting upon such procedure among those under them. We started the ball rolling by sending out a circular letter under the signature of the general manager to all yardmasters, shop foremen, trainmasters and other men of like employment. That circular plainly urged the men to prevent as far as possible the following of unsafe practices among the men in their charge. This circular letter was followed up by a communication from the head of each department, calling the attention of their superintendents to the circular-letter sent out by the general manager, and that it was expected they would live up to the spirit of that circular-letter. We ourselves have seen that these instructions were observed, and results are beginning to show themselves. Another point is that to attain the best results, we cannot follow, to any extent, a purely mandatory course in this educational work. There must logically be authority and discipline at the back of it all, but the best results come through a spirit of co-operation and coaxing rather than "cudgelling." We have recently prepared a two-reel motion picture film graphically portraying the evils of unsafe practices. This film will place before the men a strong moral lesson in safety.

PHYSICAL EXAMINATION OF EMPLOYEES.

MR. G. L. AVERY: At our plant, we have aimed at selecting workmen who are in as good a physical condition as possible. Con-

sequently, we lay great stress upon the work of the employment department. Although a man may look perfectly well when engaged for work, he may have a hernia; with the result that after a day or two he may allege sustaining of a rupture, and claim \$3,500. We maintain, therefore, that physical examination of employees would eliminate 99 per cent of such possibilities. Every man in our plant of 1,000 hands has been thus examined inside of two months, two doctors and two assistants doing the work. Prior to taking up safeguards, which were the last factor to demand attention, we had been busy for over 18 months with education and co-operation. The result of all this has been that during 1913, 94.90 per cent of all our injuries resulted in no lost time; while for the first six months of 1914, this percentage had risen to 98.35 per cent. We have secured good results from the use of our "unsafe tags," which are attached to any faulty machine or appliance to show that it is out of order and must not be used, under penalty of discharge, until repaired. Our eye bulletins, prepared in co-operation with our foremen, have secured fine results for us.

DR. G. M. PRICE: I know of another company the members of whose inspecting committee carry red tags with them, and whenever a danger point is found on a machine a tag is attached. After a suitable guard has been in place for a few days, a green tag is attached, to show that the inspecting committee have examined the machine and that it is now in order.

MR. F. F. SMITH: We of the National Tube Company adopted the red tag system some years ago. There is a box of such tags in every department; and any man, not merely the safety committee, can use them.

THE SMALL EMPLOYER.

MR. J. J. HEELAN: Our greatest field of work is with the small employer, who, in the first place, cannot afford a safety organization and, secondly, has not a sustained interest in accident prevention through lack of experience. What, then, is the best method of interesting the small employer so that he will take an active interest in eliminating unsafe practices? I am at present working out two plans along this line. One is in a community where our safety inspector acts as safety inspector for a number of plants. He meets

the safety committees in several plants, and makes an inspection with them. He discusses their accidents at their regular meetings, furnishes them with material for the bulletin boards; and takes up with them the accidents that have happened during that month or the one previous. In our other plan, we are combining efficiency work with accident prevention activity. We have a technical and tactful man who has induced the small employer to appoint a safety committee to principally investigate dangerous practices with the view to their elimination and consequent attainment of greater efficiency in accident reduction and cutting out of waste. This plan is yielding us very good results.

PERSONAL TALKS TO THE MEN.

MR. W. H. DOOLITTLE: In our work, which is carried out among a scattered group of small metal and woodworking industries east of the Mississippi river, we give practical personal talks to the men in the shops; and, finding generally a prejudice among the men to the use of guards, we endeavor to overcome such objections. We also discuss matters with the employers; and usually secure co-operation on both sides. Our experience has proved that the most effective way of meeting difficulties is to have the men form a safety committee with a safety inspector in every plant, as, owing to our own visits being at long intervals, it is well to have someone permanently active in each establishment.

MR. W. J. TODHUNTER: At the Illinois Steel Company we have divided our safety committees into units of as close to 25 men as we can. In the work of eliminating unsafe practices, we endeavor to avoid placing foremen at the head of these units, selecting workmen instead. We take the most intelligent man in a division, calling him the "division head," and invest him with full authority to send any man to the office or to the foreman to be disciplined or discharged, whichever may be necessary. This "division head" has full authority to stop the operation of the mill if there is anything wrong with the machinery which might cause an accident. In this way we hope to do away with the necessity for an inspection department. If only the men do as they are instructed by these "division heads," we shall have no more trouble. The plan has been in operation for the past nine months at one plant where 124 men are em-

played during the 24 hours of the day. This year, to date, we have produced 174,000 tons of slabs and billets, and have not had one hour's lost time due to accidents.

MR. R. C. RICHARDS: With the view of encouraging the men to report unsafe practices, we have given an assurance to everyone on the Chicago & North Western that nobody reported for the first time should be disciplined or discharged.

MR. W. J. TODD HUNTER: We follow practically the same plan, and do not discharge men or even send them home for the first violation; but, after a man has been cautioned, the committee takes him in charge, and not the foreman. If he repeats the forbidden practice, he is disciplined.

MEN APPOINT THEIR OWN INSPECTORS.

MR. C. A. GILKERSON: Our activities are confined to public utility work scattered over the northwest of Illinois. Our men have been organized. They appoint their own inspector, such inspectors being in each gang or department; and, if they see the men working in an unsafe place, or carrying on a dangerous practice, the men are spoken to about it. If this does not have the desired effect, the inspector informs the foreman. The foremen are also inspectors for unsafe practices. We are attempting to teach them to be "working foremen," not simply assigned to work by time-keepers as many foremen are, and good results are coming forward from this method.

MR. E. K. PRICHETT: As regards the woodworking industry, we in Grand Rapids have a co-operative plan. The furniture associations in that city have taken up employers' liability insurance of their own, and operate the Furniture Mutual Insurance Company. The matter of unsafe practices soon developed until it was found desirable to have an inspector, an entirely disinterested man, to look over the various plants. An ex-factory inspector was accordingly engaged to survey the several establishments at close intervals, and the number of unsafe practices to which he has called attention has been remarkable. Bulletins are furnished every week relating to some point which he has noticed in one factory or another. These are sent directly to the foremen of the departments, who see that they are properly posted therein.

A CARELESS FOREMAN.

MR. A. B. MAINE: During my work in connection with a Grand Rapids trade paper, I visited the furniture factories in the Middle West. On one occasion at a well-guarded plant of 150 men in Indiana, I stood with its secretary near a shaping machine, where the foreman was operating it with the regular operative at his side. This foreman, who did not notice the secretary or myself, ran the machine with the guard out of position; but, when he turned round and saw us, he made an attempt to put the guard into place. The secretary then walked the foreman over to one of the notices posted about the plant which stipulated that the penalty for operating a machine without the guard was dismissal. The foreman was then discharged immediately. Two months ago I visited that plant again, and the secretary told me that since discharging that foreman, he had not had a single accident in the course of ten months.

MR. E. A. MEVES: Our greatest difficulty was to restrain some of our boys, from 18 to 19 years of age, from scuffling and fooling around among machinery when they were not busy. We accordingly put the necessity for care fairly and squarely before these boys, telling them: "There is only one way to hold your job, *cut out the scuffling.*" From that day in last March to the present we have not had to discharge any boy for scuffling. The point is simply to take up the proposition from different angles; reaching the boys through their hearts, instead of by force, or by discharging them.

THE CHAIRMAN: I think we all agree that it is not policy to wield the "big stick" all the time.

AN EXPERIENCE IN RAILROAD WORK.

DR. DONALD McCASKEY: From the point of view of my position as a surgeon with the Pennsylvania railroad, there has not been any unsafe practice that has been eliminated with better results, in our own experience at least, than that of the abolition of bad and defective rails. We had every superintendent in our system walk personally with the road supervisors over several miles of track. Such a plan was an education to the superintendents themselves; and the supervisors, for their own part, got their respective track

foremen and section bosses to co-operate also, the track walkers being also enlisted. Within three days thereafter all of the practical men of the system were thoroughly versed in what an "unsafe" rail was, and what a "faulty rail" was, from the chemical point of view. Wherever a faulty rail was observed, due note was taken. A proper system to eliminate such rails is in operation.

MR. L. S. BALDWIN: I appear before you as a "boss" and also as a "Safety First" man. During the past six months we have had two fatal accidents in our plant. When the first happened, we had no safety man to look after safety appliances. I therefore took this duty upon myself, but as an executive has a hard task in the tackling of his ordinary duties besides those of safety, I got my assistant to notify me every time he noticed anything dangerous. Suggestions began to pour in from him, and we soon had the most flagrant conditions remedied.

NO SUCH THING AS A "NECESSARY ACCIDENT."

MR. G. K. GIBSON: I have analyzed this matter of unsafe practices; and it seems to me that the primary point is to inject a concrete idea into the minds of the men how to abolish such practices. It must be clearly demonstrated to the men that there is no such thing as a "necessary accident"; that a man who has an accident requires a guardian; and that business at a plant must be conducted without accidents. After getting at our men along these lines we had no accidents for the next two months; and this in face of the fact that our accidents had averaged eight each month for the previous half year.

USE OF LIQUOR DURING WORKING HOURS.

MR. F. H. GRAPER: Accidents can most decidedly be traced to the use of liquor during working hours. How should this practice be eliminated? Would it be by discipline or education?

MR. E. K. PRICHETT: In this connection I may say that we gave the milkman open thoroughfare through our factory. Moreover, in nearly all the large factories in Grand Rapids, a milk wagon drives up to the works' entrance at about 10 in the morning, and milk is distributed in sealed pint bottles to all the employees who desire it.

The men drink the milk with their lunch, and are not allowed to go outside with the object of bringing beer into the plants.

MR. H. B. SMITH: Liquor is indeed a vital producer of casualties. In May of this year, a notice was posted at our Joliet works, signed by the president and general superintendent of the plant, signifying that it is the practice of the works to discharge men found drunk while in the plant, and that no promotions would be made from the ranks of liquor-users. This month we have started an individual campaign among the superintendents of the departments, whereby each superintendent or his assistant (not a foreman) is going to talk to every man in the department, and ask him if he will refrain from drinking while coming to the works; if he will abstain from coming to the plant should he have been out during all the previous night; and if he will use his influence with the other men to have them abstain from alcohol. As a general result of these tactics, many of the men have said: "This is one of the best things the company ever did for us—it saves our money."

DR. F. D. PATTERSON: Alcohol is a poison. Employers ought to make every effort to eradicate the corner saloon near their plants.

INDUCING TIPPLERS TO DESIST.

MR. G. K. GIBSON: In the campaign carried on at our two plants for the discontinuance of drunkenness, we find a great deal depended upon the methods adopted to get at the tipplers and have them desist. In the first place, our president and general manager wrote a letter to every man in the plant, heading it "A few words with our employes." He then pointed out that the plant had come under the State compensation act, and that the company was obliged to pay for the loss that any man incurred through accident from whatever cause. Further, that a man who was drunk while working in the vicinity of dangerous places or fast-running machinery was more liable to mishap than an employe in his sober senses. Then a notice was pasted on the next fortnightly pay-envelope; and on each pay-check the following written notice was affixed: "Don't cash *this check in a saloon.*" Three of such checks came back with the endorsements of saloon-keepers on them. Our executive investigated these cases very carefully; and it actually turned out that the men were not to blame. They had, as a matter of fact, presented

the checks for payment in ordinary shops, but the proprietors of these, being out of sufficient funds or ready change, had surreptitiously sent the checks to a nearby saloon for payment. We also explained our position regarding liquor to the merchants throughout the town, and secured their instant co-operation because they saw that their own bills against the men would be met more promptly.

- DR. B. L. REITMAN: What is being done to regulate the practices of the bosses and stockholders who drink while not permitting their workmen to do so?

THE CHAIRMAN: "I know that in many instances the higher officials of several companies are abstaining from alcohol, and the practice is becoming much more general."

INDUSTRIAL HYGIENE SESSION.

Wednesday, October 14, 1914—2. p. m. to 5 p. m.

The meeting was called to order by President Campbell.

THE PRESIDENT: We had anticipated having the present Health Commissioner of the City of Chicago (and his name appears on our program) act as our chairman. Through absence from the city he was compelled to decline to be here today, but we have been able to make as good a substitution in the person of the ex-Commissioner of Public Health, Doctor W. A. Evans (Applause) who is known to you all and whom I now have the pleasure in introducing to you as chairman of our afternoon session. Doctor Evans. (Applause.)

(Doctor Evans took the chair.)

THE CHAIRMAN: Mr. Campbell, and ladies and gentlemen of the meeting: I share with you your disappointment that you are not to have the pleasure of a set address from Doctor Young. The chair has insisted that I speak for a few minutes on some subject germane to the present session, and I have therefore thought it appropriate to outline some of the hygienic measures taken during the construction of the Panama Canal.

When the construction of the Panama Canal was undertaken it was realized that a fundamental necessity was a better regard for human lives than had been possible in the French attempt. It was the judgment of those who analyzed the situation that the death and disability rate under the French, operating directly and indirectly, had been the largest factor responsible for failure.

The first man chosen as a part of the personnel of the Canal corps was Colonel Gorgas, who in Havana in 1901 had organized a movement which had conquered yellow fever and promised to conquer malaria. Colonel Gorgas was selected in 1902. He went actively on the job in 1903, but he was not given full control until July, 1905. By November, 1905, he had ended yellow fever in the Canal Zone. Malaria was at its maximum in 1906. That year began its decline. The number of deaths from malaria among the operatives fell from

825 in 1906 to 7 in 1914. The improvement in the pneumonia and typhoid situations is almost as great.

My object in mentioning these accomplishments is several-fold. First, they prove that disease is preventable, not as an academic proposition, but as a practical workable procedure. Second, to contrast what was done at Panama with what was not done at that place.

The average death rate for the past three years among the employes of the Canal Zone is 8.53. This is a very low rate. It is true that the population is almost wholly one of young, vigorous males and, therefore, a low rate is to be expected. But, to offset that, we have the fact that the population are mostly negroes, the location is within the tropics and generally regarded as about the unhealthiest in the world and the general type of occupation is one having the maximum hazard. Giving due values to all the factors the conclusion is justified that the death and sickness rates among the workers in the Canal Zone were phenomenally low.

Colonel Gorgas and his helpers, and especially Mr. LePrince, Dr. Carter, Dr. G. Ross and Dr. Perry are entitled to the reputations won by them in Panama.

But when we come to analyze the rates we find that certain of them were not what they should have been. The average death rate from disease among the employes in the last three years was 5.34. The average death rate from accidents was 2.85. The accident fatality rate, 2.85, is very high. Some accident fatality rates for Chicago are—1870 to 1880, .874; 1880 to 1890, .977; 1891 to 1900, 1.146; 1901 to 1910, 1.153; 1914, 1.106.

The Chicago accident fatality rate is about 38 per cent of that of Panama. The Panama rate is almost two and a half times as high as that of Chicago. The types of hazard at Panama differed so much from those in Chicago that the above comparison is not entirely fair. I find, however, that the accident fatality rate at Panama was higher than that of typical railroads in the United States of large industrial plants employing heavy machinery and even of waterway and railroad construction work in the United States.

The last detailed figures from the Chicago Health Department which are available are found in the 1911 report and are the figures for 1909. As there has been no great fluctuation in occupation since

then and as comparison with the Canal Zone will not be accurate anyway, the figures for 1909 will suffice. Let us see if we can draw any useful deductions from reducing the Chicago figures to figures based on a population the size of that of Panama and comparing them with those from Panama for the past three years.

Average number of deaths in
Panama, 1912, 1913, 1914.

Suicides	3.3
Fractures and dislocations	No such class
Burns and scalds.....	1.6
Heat and sunstroke.....	0
Cold and freezing..	No such class
Lightning	0
Drowning	30
Poisonous gases.....	2
Other accidental poisoning..	3
Gunshot wounds..	No such class
Machinery	No such class
R. R. accidents.....	44
Street cars.....	No such head
Vehicles	No such head
Automobiles	No such head
Suffocation	No such head
Birth accidents....	No such head
Homicides	3.3
Other accidental violence...	5.5
Various accidental traumas	39

Deaths in Chicago for 1909
for population the size of em-
ployes of Canal Zone.

Suicides	9.5
Fractures and dislocations...	3.
Burns and scalds.....	3.
Heat and sunstroke	6.
Cold and freezing	1
Lightning	9
Drowning	2.3
Poisonous gases	6.
Other accidental poisoning..	1.2
Gunshot wounds.....	4
Machinery	1.
R. R. accidents.....	5
Street cars.....	4.1
Vehicles	2.3
Automobiles	5
Suffocation	10
Birth accidents.....	6.
Homicides	5.
Other accidental violence....	
.....	No such head
Various accidental trauma-	
tisms	No such head

We find that the heavy comparative fatality rates—those which gave to the Canal Zone its bad showing—come under three heads—drowning, railroad accidents and various accidental traumatisms. The 1914 report indicates that a considerable part of various accidental traumatisms is due directly and indirectly to dynamite explosions. The probability is that the high drowning rate results from men first injured by machinery and disabled or made unconscious

thereby before being pitched into the water. In other words, the high accident fatality rate in Panama resulted from the use of high power force at widely scattered points and under uneven circumstances.

It will never be possible to have low accident fatality rates under such circumstances, but the experiences of comparable out-of-door projects in this country indicates that a much lower rate than that at Panama is attainable. Then why was it not attained?

The gain in disease prevention was not obtained without a struggle. We learn from Col. Gorgas' "Sanitation in Panama" that during the first half of 1905 the conclusion to abandon the Havana plan of sanitation was under protracted and serious discussion. In June, 1905, a new plan had been tentatively adopted and a new director tentatively agreed upon. Col. Gorgas complains that the plan was very seriously hampered again from somewhere about 1907 on.

To have made the one step relative to disease prevention under the circumstances was all that could have been expected. Which serves to introduce the third and final point. Accident prevention is a function of government. Its proper place is the health department. All health departments should be preventing accidents as well as disease. When the national government next undertakes some great work of a kind with the Panama Canal it will have an accident prevention as well as a disease prevention bureau as a part of its health department.

My attention has just been called to the fact that you are invited to attend the meeting of the Chicago Medical Society that is to be held in the Marshall Field Annex this evening at eight o'clock. That every member of this organization and every visitor to this meeting will be welcome at this meeting of the Chicago Medical Society.

Doctor Hammond calls our attention to the fact that there will be a discussion of X-ray that may prove of interest to some of those who are in attendance at the meeting. And now I have the pleasure of introducing Doctor F. D. Patterson, Director of the Department of Sanitation and Accident Prevention, Harrison Bros. & Co., Inc., Philadelphia, who will address us on the subject "The Present Status of the Protection of the Worker in the Lead Industry in the United States."

DR. F. D. PATTERSON: Mr. Chairman, Ladies and Gentlemen: There is such a brief amount of time available for the presentation of this all important subject that I can but briefly touch upon a few more important points.

Your Industrial Hygiene Committee has been fully aware of the magnitude of this task, which in its judgment could be best fulfilled by confining its activities to the consideration of the subject of the smelting and refining of lead, the manufacture of paints containing lead and the dangers of the painters' trade.

This committee selected lead for its subject for the reason that it is by far the most important industrial poison, not only because of the enormous extent to which it is used in various industries, but also because it is insidious in its pathological action upon the human body.

The short space of time in which your committee has been organized precluded this subject of the preventive measures in all the industries in which lead is used which, however, we hope will at a future date become the subject of our study and investigation.

Your committee is familiar with the studies and reports which have been made by the United States Bureau of Labor on the manufacture of white and red lead and glazing of pottery and tiles, the enameling of sanitary ware, the hygiene of the painter's trade, the smelting and refining of lead and the manufacture of storage batteries.

With the exception of the report on storage batteries all these reports have been published, and I take advantage of this opportunity to pay my personal word of tribute to their author, Dr. Alice Hamilton. Thanks to her efficiency these reports are masterpieces, they are the last word of their subject and the one beacon to which all turn in seeking light upon the subject of the use of lead in these industries.

Your committee prepared a circular letter of which more than 225 copies were sent to smelters and refiners of lead, to corrodors of lead and the manufacturers of lead salts, to the makers of paints and lead colors and to the large consumers of paints such as automobile builders, car manufacturing companies, railroad companies, etc.

Approximately fifty replies were received. These varied greatly from those who were keenly alive to their sanitary prob-

lems to those others who evidently believed that the use of lead presented no hazard and consequently took no measures to protect their work people, and in this latter class may be placed one company who reports that they are using sublimed lead and that precautions are unnecessary, as it is not injurious to the workmen, which but emphasizes, if emphasis be needed, the reason for a widespread distribution of the fruit of the labors of your committee.

At the present time fifteen of the states of these United States have legislation upon their statute books making lead poison a reportable disease, and in five of these fifteen states there is the so-called uniform lead bill which makes certain requirements and regulations for factory hygiene for the protection of the worker, but in practically all of these bills the pottery industry, the enameling of sanitary ware and the manufacture of storage batteries are exempted from the provision of the act.

The time at my disposal does not permit for discussion of the ultimate effect of this legislation. I have the honor to agree with Dr. Alice Hamilton, who has expressed the opinion that the results have been, and I believe that she will agree with me that the need of the day is not for more legislation to clutter up the already overfilled statute books of the various states, but instead there is a crying need for a nation-wide campaign of education which in clarion tones will bring home to all workmen the truth that no matter how much money the employer may spend in providing means to prevent the creation of dust, no matter how ample the facilities for bathing and for eating in rooms well away from the various processes, these efforts are of no avail if the workman will not co-operate. The workman who will not avail himself of the respirator which is provided him for his use without cost, the workman who insists on taking frequent chews of tobacco with lead filled hands, who will not use the provided washing and bathing facilities, who use alcohol in quantity, who either will not take the time to eat breakfast or who has no appetite for it by reason of his excesses of the night before is the real "lead menace" of the fervent brain of the notoriety seeking magazine writer.

As in accident prevention, so in the prevention of lead poison the campaign must be waged along educational lines. The manufacturer must be educated when necessary (though nearly all are alive to the necessity) to provide adequate protection against dust and

fume, which are the two curses of the lead industry. The minute particles of dust are surrounded by a layer of moisture which renders them more liable to absorption by the respiratory mucous membrane, or, when mixed with saliva and swallowed are absorbed by the stomach.

I cannot emphasize too strongly the necessity for the education of the workmen and for factory discipline which will eliminate the habitually careless from the industry.

Dr. Patterson then illustrated by lantern slides and by moving pictures the various methods in force for the prevention of lead dust and fumes, and various welfare rooms and houses where the employees had ample washing facilities and dining rooms.

THE CHAIRMAN: Dr. Alice Hamilton, of Chicago, will now discuss Dr. Patterson's paper.

I took the title of Doctor Patterson's paper in the larger sense of the status of the prevention of lead poisoning in the lead industries in general, and, after all, Doctor Patterson has so thoroughly taken up the subject of prevention in the white lead industry that there would be no need for me to say anything more about that. I think perhaps I had better take the few minutes at my disposal to speak of the lead trades in general, and of the principles which should govern the prevention of lead poisoning in these trades.

As of course you all know, lead is the industrial poison par excellence. There is hardly any great manufacturing concern into which lead does not enter in some form or other—either metallic lead or some salt of lead—and every form of lead is more or less poisonous, although the salts differ a good deal in the degree of their poisonousness.

The most important, I suppose, as well as the most dangerous, is probably the sub-oxide of lead, that fine gray powder that forms on the surface of lead very slowly in the cold, rapidly when it is heated, and that comes off in the form of lead fume when lead is heated to the fuming point. That is the form of lead to which lead smelterers and refiners are exposed, as well as all of the workers in metallic lead, the makers of wire and cable and sheet lead, and type founders and type setters, and casters of lead of all kinds. This sub-oxide is really, I suppose, very much the most widespread of all the lead salts, and, as I said, one of the most poison-

ous, if not the most poisonous, partly because it reaches the atmosphere in a state of very fine sub-division and can therefore easily be breathed in and absorbed quickly when it reaches the human victim.

Next to that we should place either the basic carbonate or the higher oxide, litharge and red lead; and there is a difference of opinion as to which of these is the most poisonous. White lead, the basic carbonate, is the most soluble, but the oxides are dustier and fluffier, litharge especially, and therefore work with the oxides is considered by many to be more dangerous than work with the basic carbonate.

My own experience leads me to think that, because I found a greater proportion of poisoning among red lead and litharge workers than among white lead workers. I remember one plant in which both were manufactured where I found fourteen cases of poisoning among sixty-five white lead men, but as much as seven cases among twelve red lead workers.

Much less poisonous than these salts, and yet distinctly poisonous, is lead sulphate, the oxy-sulphate or sublimed lead, as it is often called. It has been often stated that this compound is almost non-poisonous, but that is a great mistake; it is not so poisonous as the ones I have mentioned, but there will be a great risk if men are allowed to handle it with carelessness under the impression that it is not dangerous.

We found in the two lead plants in which sublimed lead is made in this country, that during the year preceding the investigation about one man in three had suffered from lead poisoning in the course of their work. Lead sulphide even, is poisonous, although it is usually considered entirely safe. No less than 25 cases of lead poisoning were treated in one St. Louis hospital during 1912, and the men all came from the lead belt southeast of Missouri, where the ore that is mined or milled is practically pure galena.

Now it is immensely important in considering the protection of men from lead poisoning to know just how lead enters the system, because obviously we shall institute different methods of protection if we must think of the skin as the most important portal, or the lungs or the intestinal tract. I think we may eliminate the skin altogether—at least, that is what the best European authorities tell us. When I went over the white lead plants in England (and

I have no doubt Doctor Patterson noticed the same thing) I saw workmen smeared with white lead paste up to their shoulders, but the inspectors were quite indifferent to that, provided the men washed off thoroughly at the end of the day's work. In my own experience I have found that lead poisoning was much greater among the enamelers of sanitary ware, who are obliged to breathe a powder which is not very rich in soluble lead—it contains only a small quantity of soluble lead—but the lead poisoning is much greater among them than it is among the pottery dippers, who have their hands and arms soaked all day long in a glaze, which contains a large proportion of soluble lead. In the one case it is a dust which the men inhale; in the other case the slime is smeared with it, but the first trade is the more dangerous.

The skin, therefore, I think, can be left out of consideration as a portal of entry for lead, although I realize that it will be hard to make a great many practical lead men in this country believe that. They all think that there is more lead poisoning in hot weather than in cold weather, and explain it on the ground that the skin absorbs more actively in summer. In the smelting industry I was told this all the time; so I took records of some 2,840 cases of lead poisoning in the smelter industry and charted them according to the months in which they had taken place, and I found that the heaviest month was a summer month—but it was June, and not July or August, and of course June is not our hottest month. To me it seemed that those June cases were to be explained on the ground that during the early spring months a great horde of green men come into the smelting works to take the place of those who have left to go into farmwork, and that these men have just had time to develop poisoning by June.

As to the lungs, we may eliminate them as an important portal of entry, but that does not at all mean that dust is unimportant. Of course you all know that lead dust is a great danger, dust and fume, for after all, fume is only finely suspended and finely divided dust. That is the greatest danger of all and the most rapidly developing, and by far the most serious causes of lead poisoning come from dusty work. But this does not mean that the dust reaches the lungs and does its harm there. It means that the dust that is breathed in becomes mixed with saliva and swallowed; and as it is so very finely divided it is very quickly absorbed, so that essentially

a man is poisoned in the same way whether he breathes in the dust or fume or whether he smears it on his food and tobacco and takes it into the mouth in that way. Only, of course, he is breathing all day long, and he is eating his lunch and chewing his tobacco only at rare intervals, so that it comes back to the breathing of dust and fume as the great peril.

The prevention of lead poisoning then in the lead industry depends first on keeping the air clean by installing an exhaust to carry off fumes; in keeping down dust through sprinkling, and, where this is impossible, installing exhausts; and finally, if none of these are practicable, to do the only thing left for you to do, to expose the men for as short a time as possible to such work.

I can think of certain processes, such as cleaning out the flues or the bag house system of a great smelter, and repairing furnaces or repairing apparatus of all kinds, where it seems impossible to keep down the dust. In those cases all that you can do is to allow the men to work for short periods only, because, please don't ever think that you are protecting a man adequately when you give him a respirator. No respirator through which a man can breathe can keep out all of the dust.

Second in importance I would put the provision of proper wash-houses and bathhouses and proper working clothes. That is important, but not nearly so important as the first thing. The amount of lead which a man gets into his mouth from his lead smeared hands may be very great in the case of the white lead industry, or in the making of storage batteries, or the manufacture of the oxides. Where, however, a man has to work with metallic lead, either in a hard or molten condition, it is dust and fumes that count.

I can remember in particular one large smelter in which the company spent a great deal of money in building a good comfort house, with every possible equipment, and yet lead poisoning among the men did not diminish, because dust and fumes continued, and no matter how much the men bathed that did not protect them. Dust and fume are dangers for which the management is directly responsible.

Doctor Patterson has spoken to you about how difficult it is to get the men to avail themselves of the opportunities for cleanliness that you give them. I think that is perfectly true, but I do think you ought perhaps to take into consideration the fact that in certain

industries you employers are very especially responsible for your men. I think if we leave out the men employed in highly organized lead industries, such as the printers, the plumbers, the painters, the white ware dippers and kilnmen, we have in the lead industries in general newly arrived immigrants who are unorganized, and toward them I do think that your responsibility is greater. You are, after all, are you not, getting the benefit of a force that accepts low wages, that is willing to work for longer hours, perhaps for seven days in the week; that is docile to a great extent—at any rate, free from the interference of the trade unions. Then, having the advantage of these child-like and docile employes, you ought to be willing to treat them as children, and not look upon them as entirely responsible for their own stupidity and their own obstinacy that comes from slow wittedness—defects which are inherent in the very virtues for which you have employed them.

I would like to say a word in appreciation of the work of Doctor Patterson in the Harrison Brothers White Lead Company, of which he has told you. I do not feel that I can stop without saying that, for I saw the plant back in 1911; and if Doctor Patterson was connected with it, I assure you if he could have shown you the pictures of the plant as it was then and compared them with the plant as it is now, you would agree with me that its own mother would not recognize it if she could see it today. (Applause.)

THE CHAIRMAN: Gentlemen, I greatly regret that we could not have given Doctor Alice Hamilton more time. I would have especially liked to have her explain how we would recognize the mother of a red lead plant. (Laughter.) But I have been given orders—I have been furnished here with a cut and dried schedule and have been ordered to run the thing as per schedule. You are to bear in mind that there are three moving picture films that are to be shown at five or soon thereafter, one on Safe and Unsafe Practices, another a continuation of the lead talk that you had, and the third the Assembling of an Automobile. They have the right-of-way at five o'clock.

Now we are ready for general discussion. The discussion will have to be brief. I would suggest that if we could have terse observations and suggestions that it would be immensely helpful and that it would not consume too much of this overloaded pro-

gram. Is there any discussion? If you will read the Journal of the Royal Sanitary Institute—the current number—you will find an article there by some one, whose name escapes me for the moment, telling the method he has been employing with some degree of success in treating people who are suffering from lead poisoning. If there is no discussion we will ask Doctor Patterson if he has anything to say in reference to the discussion by Doctor Hamilton.

DOCTOR PATTERSON: I have nothing to say, thank you.

THE CHAIRMAN: Doctor Patterson will speak on the same subject somewhat later. Now we pass to the second subject of the afternoon program, a subject that is of great concern, a matter which you are all interested in, I am sure. It is to be presented by a man who has devoted the greater part of his time now for some time past in the detailed investigation of the health of employes, and therefore speaks with authority on the subject that he is to talk about, "The Physical Examination of Workers," by Doctor J. W. Schereschewsky, of the United States Public Health Service. Doctor Schereschewsky. (Applause.)

DOCTOR J. W. SCHERESCHEWSKY: Mr. Chairman, Ladies and Gentlemen: The spirit of individualism is rapidly passing out of modern society, to be replaced by an increasing solicitude for methods which aim at greater co-operation between various social units, the better conservation of human life and health, and an increasing recognition of the importance of the individual to society at large.

We are gradually coming to a realization of the fact that continued industrial prosperity is not dependent, in the last analysis, upon the tons of raw material consumed, nor upon the money value of the finished product, but upon the physical efficiency of the worker and the length of the period of his economic productivity.

There can be no question but that the value of the individual to society is conditioned more by the length of this period than any other factor. The stage of growth and development from infancy to manhood is at a heavy, though rightful, cost to society, a cost which is becoming larger from year to year, because of the increased pains and skill taken to insure the greater efficiency of the finished human product and the longer time devoted to this end. During

his years of economic productivity the individual repays this to society.

It is evident that the returns from these human investments are variable. Some return manifold the cost, others increase greatly their debt. The most important factor determining the return the social unit shall make consists in the condition of his health. The maintenance of a continuous state of physical efficiency is the best guarantee that each social unit shall easily and abundantly discharge his debt to society.

Few of us have any accurate realization of the enormous losses caused each year, in all industries, by the ill health of workers, for the most part, due to preventable causes. In a recent address by Dr. L. K. Frankel,* of the Metropolitan Life Insurance Company, before the Detroit Conference, it appears from the experience of the local sick benefit societies of Leipsic and vicinity in Germany, that the annual loss from sickness per 100 male workers in 83 occupations was 910 days, varying from 395 days in barbers and personal attendants to 1,574 days in cardboard and paper-box factory workers. In female workers the loss was still higher, varying from 560 days in bookkeepers and office employes to 1,978 days in workers in skins, hides and other animal refuse, the average being 1,138 days.

In 1910, the First National Conference on Industrial Diseases† addressed a memorial to the President of the United States in which it was stated that there occurred annually, in this country, 13,400,000 cases of illness among workers, involving an economic yearly loss of nearly three-fourths of a billion dollars.

As a large part of this huge loss is preventable, it is clear that society is not fostering foolish fads nor indulging in vague humanitarianism by displaying active interest in the physical condition of its units. It is only natural, therefore, that the question of the physical examination of workers (or medical supervision as I prefer to term it) should have attracted increasing attention of recent years.

* Dr. L. K. Frankel: *Occupational Hygiene*, Appendix A, Detroit Conference, Niagara Falls, September 4, 1914.

† Dr. W. Gilman Thompson: *The Occupational Diseases of Modern Life*. Read before the Annual Meeting of the Cumberland County Medical Society, Portland, Me., December 8, 1911.

It is my intention to discuss briefly the purpose of such medical supervision, its value, and the results we may expect in the future from the practical application of the useful data it can be made to provide.

We are, of course, well aware of the specific reasons for the introduction of the physical examination of workers in this country. The enactment of legislation for the compensation of workmen for injuries has rendered such examination advisable for the purpose of determining the physical condition of workmen upon entering employment, so that unjust claims for accidental injuries might be avoided, and the hazard to fellow employes, arising from physical defects in workers, reduced.

Begun on this basis, we are rapidly coming to the realization of the great value of such medical supervision in a larger sense. The beneficent results of the widespread campaign for safety have focused the attention of the industrial world in a way, possible in no other manner, to the very great importance of health in the abstract. We are beginning fully to recognize the fact that the very principle which renders it expedient to safeguard life and limb, renders it equally expedient, by extension, to safeguard the health of the worker from all standpoints.

In accordance with this principle large industrial plants, everywhere, are beginning voluntarily to study industrial sanitation and to extend measures, originally intended solely to reduce accidents, so that they also serve to diminish the incidence of disease. They are realizing that, as it is their duty to minimize the effects of ignorance and carelessness in producing accidents, so, in similar fashion, the operation of these causes in the production of sickness should be reduced, as a worker who is ill through carelessness or lack of knowledge is just as much a dependent upon society as one in the same condition from injury.

Let us now proceed to a discussion of the aims of such medical supervision. The goal to which we are evidently tending is to render all industries "safe." While certain hazards, inherent in industries, must necessarily be encountered, our object is to minimize their detrimental influence. In other words, we are subscribing to the principle that, *per se*, an industry ought not to exercise an unhealthful influence upon the worker; that occupation in that

industry ought not to curtail the average period of economic productivity.

Supposing that all precautions have been taken to prevent the operation of injurious factors in a given industry; suppose that due care has been given to the sanitation of workrooms; suppose that the occurrence of accidents has been reduced to a minimum by proper rules, the safeguarding of machinery, and the education of the workers, have we done all we can or ought to do in the way of guarding the industry from economic loss through disabilities? The answer is "no!" We will achieve results far in advance of anything accomplished by the methods above described if, in addition to this, a system of medical supervision with periodic physical examinations of all employees be introduced. There can be no question but that such examinations constitute the most efficient means at our command for maintaining the individual in a continuous state of physical efficiency.

As a general proposition such medical supervision should have for its objects the following points:

1. The prevention of the introduction and the control of communicable diseases among workers.
2. The detection of physical defects and diseases among workers in their incipency.
3. The adaptation of the work to the physical condition of the worker.
4. Advice to the worker as to his own physical condition.
5. A careful record of the actual physical condition of workers.
6. The education of workers.
7. The prevention of occupational diseases.

We will now take up each one of these points for discussion.

1. *The Control of Communicable Diseases.*—It would seem a matter of simple justice that the worker should be protected from exposure to infection from coworkers suffering from communicable diseases.

As an example of this the Public Health Service was recently called upon to investigate, in a large steel plant, an outbreak of trachoma, which, as you know, is a contagious disease of the eyes, frequently resulting in great impairment or loss of vision. The situation was found to be so acute that the company took immediate

steps at large expense to eradicate the disorder, in view of the imminent spread of the disease throughout the factory personnel. A system of medical supervision which, I am given to understand this company has now adopted, would, in the first instance, have prevented this outbreak.

2. *The Detection of Incipient Defects and Diseases.*—Many individuals have their efficiency much impaired because they are suffering from some easily correctible defect whose existence was unsuspected by them. Others are suffering from diseases, such as pulmonary tuberculosis, in an incipient condition which, if neglected, would make such advances as to preclude subsequent recovery. Medical supervision creates an opportunity for detecting such defects and diseases before the damage wrought is irreparable and of advising the worker of the steps which should be taken for their improvement or correction.

3. *Adaptation of the Work to the Physical Condition of the Worker.*—It is evident that some classes of work require certain physical qualifications or the absence of certain physical defects or diseases. It is obvious that persons suffering from hernia should not work at occupations which require the lifting of heavy objects, persons suffering from nephritis should not engage in occupations involving great fluctuations in temperature or exposure to cold and dampness, nor should persons suffering from cardiac disease be placed in situations where physical exertion is required, or where a sudden vertigo may endanger the individual or his coworkers. Medical supervision gives the needed opportunity of adjusting the duties of the individual to his physical capacities, so that the productiveness of the individual remains at a maximum compatible with his physical condition, without his being endangered or causing injury to others by reason of his infirmities.

4. *Advice to the Worker.*—The great opportunity which medical supervision affords to advise workers concerning their physical condition is an advantage which cannot be overestimated. The helpful interest thus displayed on the part of the employer toward the physical condition of workers awakens that spirit of co-operation on their part which is necessary to the maintenance of "safe" industrial conditions. Such at least has been the experience of plants in which medical supervision has been put in operation. In addition to this, workers should be encouraged to visit the plant

hospital whenever they feel sick, so that, on the one hand, if the symptoms are serious, the worker can be advised to stop work before further injury has occurred, or, on the other hand, if the ailment be trivial, a minimum of time will be lost from work.

5. *Record of the Physical Condition.*—For proper medical supervision it is essential that careful records of the physical condition of workers be kept. In the first place a record of the physical examination serves to safeguard against unjust claims for compensation in the case of injuries, and in like manner, a record of physical fitness serves to substantiate just claims for such injuries. In the second, such records constitute most valuable data for studying the average physique and the condition of the health of workers in any industry.

6. *Education of the Workers.*—We are familiar with the excellent work already accomplished in the prevention of accidents by means of the education of workers. A similar campaign in teaching them how to keep well should have like effects in reducing the number of cases of illness.

7. *The Prevention of Occupational Diseases.*—Systematic medical supervision is a most excellent agent to prevent the occurrence of occupational diseases among workers. When such diseases are found in a plant the first cases will be detected by the medical supervision, so that the sanitary defects responsible for them may be readily corrected. The supervision would serve also as a constant check upon the efficiency of the methods introduced to prevent the occurrence of occupational diseases.

TYPE OF PHYSICAL EXAMINATION CONTEMPLATED.

Whatever is worth doing is worth doing well. The importance of making physical examinations thorough cannot be over-emphasized. A reliable record of the physical condition cannot be obtained by a hasty and superficial examination; the data so collected are of no especial value, nor can incipient disease be detected by such methods. What is especially needed is a standard form of physical examination, so that the data obtained in this manner for various industries may be comparable.

Workers found suffering from physical defects and diseases should be held under observation and requested to report back for re-examination, so that advice as to their condition may be given

as well as a watch kept upon their progress to recovery. It is also earnestly recommended that periodic re-examinations be made of all workers, as this is the best way of insuring a continuous state of health on their part.

It is evident from the foregoing that the scheme of medical supervision contemplated in this paper is extensive and would entail considerable expense to put in operation. The question which inevitably arises is: "Will it pay?" The answer must be unhesitatingly in the affirmative. The experience of all plants in which such systems have been put in operation is so satisfactory that no doubt has arisen in the minds of their officers that medical supervision does not pay in increased efficiency of the working force, greater content of the workers, greater co-operation between employers and employed, and in greatly diminished loss of time and suffering from preventable disease.

There is another aspect of this question of medical supervision upon which I have not as yet dwelt. We are in need of more exact information in order to render our industries "safe" from a health standpoint. While it is manifestly wasteful to introduce superfluous precautions in industries, it is equally a part of social justice to see that such precautions be adequate. The physical examination of workers gives us information which can be derived so well in no other way, as to the diseases and defects peculiar to workers, and the specific influence of occupations upon the health of the individual.

Let me illustrate this point: At present the Federal Public Health Service, of which I am a representative, is entering upon a study of diseases of occupation. The first and most important question in the consideration of this subject is, naturally, what is the effect of different occupations upon the health of workers. The Service is just concluding an investigation, undertaken at the solicitation of the Joint Board of Sanitary Control of the Garment Trades, in New York, as to the influence of this industry upon the health of its workers. The most important line of study which the Service pursued in this investigation consisted of careful physical examinations of several thousand garment workers. As a result of these physical examinations, the Public Health Service is now in possession of rather precise data as to the effects of this occupation upon the health of the average physical condition of

garment workers, the types of diseases, and disabilities from which they suffer. The Service is, therefore, in a position to formulate useful recommendations for the sanitary improvement of this industry. These studies the Service hopes to extend to other industries as facilities permit.

We see from the foregoing the great value of physical examinations of workers in obtaining accurate data as to the effects of industries upon health. The general introduction of systems of medical supervision, with periodic physical examinations in various industries, will result in the collection of a body of similar data which, when studied, will form a logical basis for practical recommendations to make all such industries safe from a health standpoint. In other words, the medical supervision of workers, if generally introduced, will point clearly the way to enable each industry to sanitize itself. When we have reached this point it will be found that the enormous economic loss caused in industries by preventable diseases and disabilities will have largely disappeared.

THE CHAIRMAN: Now, the discussion of this paper will proceed at first along somewhat formal lines, and then will be thrown open for general participation. The discussion is to be opened by a gentleman connected, as you very well know, with an industry that has undertaken to sanitize itself. I find here some information about this gentleman, which I am not going to give you, because you know all of it, except perhaps one item, and that is, that he is the author of a book on "Industrial Sanitation," which is just about to be issued. I take great pleasure in introducing to you Doctor G. M. Price, of New York City. (Applause.)

Mr. Chairman, Ladies and Gentlemen: In his extreme modesty, Dr. Schereschewsky has failed to lay proper emphasis upon the great value and importance of the examination which he has made during this summer for the garment trades. The only way by which we can judge of the effects of occupation and the relative mortality among various workers is by a physical examination of the workers in the different industries. Now this has not been done before. Two years ago an examination was made under my direction of six hundred garment workers and one hundred furriers. That examination, however, was not as extensive nor as intensive as the one which Doctor Schereschewsky has made, which consisted

of the examination of 3,100 odd persons, and the examination was the most intensive that has ever been made in this country. The results when they are published will surely show the importance of such examination, and also when they are continued or followed up by an examination of other industries will leave a basis for comparison which will be very valuable.

Now as to medical examination or physical examination of workers themselves. This seems to be inevitably coming in all industries. The time is not distant when every industrial establishment in the country will have on its staff, just as it has an engineer and a foreman, a medical man or woman. Surely the human factor of industry is of as much, if not of greater importance, as the mechanical factor. The employers who would not for a moment think of accepting a machine before testing it, or who would not let a machine stand there without a periodical test, will come to the conclusion that it pays to test and examine the workers before they come in, and also periodically after they are there. This will, of course, lead to further problems, which inevitably will come through the introduction of physical examination, and these are: What is to be done with those who are rejected? What is to be done with those who are incapacitated by sickness, invalidcy or old age?

This safety movement leads to the provision of workmen's compensation, and good workmen's compensation laws and provisions naturally lead to the introduction of medical prevention and medical examination.

Now let us go further and see the logical sequence that medical supervision and workmen's compensation laws lead to, and that is towards the insurance for sickness; insurance for invalidcy, insurance for old age; in other words, *social* insurance. (Applause.)

THE CHAIRMAN: Discussion of this paper will be continued by a gentleman who has contributed practically very materially to the solution of our local situation. I have great pleasure of introducing to you Doctor T. B. Sachs, of Chicago. (Applause.)

Mr. Chairman, ladies and gentlemen: It is extremely gratifying to us that this subject of systematic medical examination of employes is being brought up for discussion before the National Council for Industrial Safety, in this community, where a systematic

campaign for the adoption of the principle of systematic examination of employes has been carried on during the last year.

I had the opportunity to study the paper of Dr. Schereschewsky, and I was very much impressed with the clear and forceful presentation of all the arguments in favor of and all the advantages to be derived from the operation of a medical system of employes in a working place. I was very much impressed with the thought that "an industry ought not to exercise an unhealthful influence upon the workers; that occupation in that industry ought not to curtail the average period of man's economic productivity." This thought lies at the foundation of the demand of systematic medical examination of workers in the industrial concerns. The campaign for systematic medical examination of employes, as I stated before—the systematic campaign—had its incipency in the city of Chicago when the Chicago Tuberculosis Institute appointed on August 13, 1911, a Committee on Factories, whose function was to campaign systematically and persistently in the industrial and commercial concerns of this city for the introduction of the principle of medical examination for employes.

This Committee held in the last three years twenty-two conferences, at which owners of concerns, superintendents, foremen, physicians, as well as other citizens interested in the welfare of workers took part in the discussion of the various phases of this very important problem. The attendance at these conferences ranged from forty to seventy-five. In all forty-seven of the large concerns of this city were represented. These concerns employ almost one hundred and ninety thousand workers. The various phases of the problem of systematic supervision of the health of the workers were discussed from various standpoints, and I can assure you that there was considerable difference of opinion, particularly three years ago, when these conferences started.

The result of the continuous discussion of this very important problem was considerable readjustment of views in reference to a problem to which communities at present give comparatively little attention.

Three years ago in the City of Chicago there was an incomplete system of examination of employees in a few concerns, which involved about 30,000 workers. At the end of three years cam-

paigning by the Chicago Tubercular Institute we find that systematic medical examination of employees is being practiced in a very large number of concerns. The total number of employees in these concerns amounts to 150,000. We find that three years ago there was no *systematic* medical examination of any employee in any concern in this city; at the present time, initial medical examination of employees is being conducted in concerns with a total of 58,000 workers.

I make reference to this work of the Committee on Factories of the Chicago Tubercular Institute with the object of arousing interest in this particular method of readjusting and formulating views of owners of concerns, superintendents, and other men connected with industrial concerns, on this particular subject. The Committee on Factories of the Chicago Tubercular Institute published in all five pamphlets which so far have had a circulation of 7,000.

At no time during the operation of the plan of systematic medical examination of employees in Chicago has there been any serious criticism uttered against the operation of this plan on the part of any one concern, the workers included. Personally I have never heard of any individual instance where the operation of the plan of systematic medical examination of concerns has worked what any one would consider injury to himself. Up to the present time there has been no criticisms experienced.

It is true that at the last meeting of the National Association for the Study and Prevention of Tuberculosis (and I consider it important to make reference to the discussion at that meeting) the suggestion was made that if systematic medical examination of employees is to be operated in a more universal way than at the present time, the workers themselves ought to be represented, in such concerns, on the committee having charge of the work. It was suggested that possibly workers would have representation by instituting the practice of medical examination of employees in connection with the development of employees' benefit associations which ordinarily have a mixed representation of employers and employees. It was also suggested that when the principle of industrial insurance is established in this country, medical examination of employees, operated in connection with the insurance plan, should be administered by a body of men who will represent both the employers and the employee.

THE CHAIRMAN: The discussion will be continued by a gentleman who has been active in our local community. I have pleasure in introducing Dr. A. M. Harvey, surgeon of the Crane Company, Chicago.

DR. A. M. HARVEY: Mr. Chairman, Ladies and Gentlemen: Doctor Schereschewsky has so completely covered this subject that there is nothing that I can add of value to the discussion, and I will merely speak because his paper is of such particular excellence.

Physical examination of employees has been practiced for many years by national, state and municipal governmental departments of work. It has been practiced by some industrial concerns for many years, the reason being perhaps the desire of those corporations to protect their sick benefit and pension funds from the inroads of employees who might be afflicted by disease at the time they are hired. The great stimulus for physical examination during the last three or four years to my mind, however, has been the statutory enactment of workmen's compensation laws. In theory the employer, paying half of the wages of the employee when disabled through injury, naturally wishes to know the physical condition of the employee when he starts to work.

From the employee's viewpoint, it appears also that he equally has a right to establish his physical qualifications at the time he is hired. Thus it is easily seen that physical examinations are or should be mutually advantageous to both employee and employer.

Physical examination of employees, however, is only a small part of medical supervision. I doubt very much if public sentiment now would stand for the compulsory and universal adoption of medical supervision. So far it has come about largely, I think, voluntarily on the part of corporations and industrial establishments that have put in a medical department, primarily to take care of accident cases and later on, appreciating the value of a medical department in these cases, have gradually enlarged the scope of such departments. Medical supervision with only physical examination of employees per se, must naturally fail of accomplishing the object which we desire medical supervision to accomplish. It is inadequate unless it goes further and includes a medical supervision of the sanitation of the places where men and women

work, and through the agency of visiting or factory nurses—graduate nurses—carries the medical work still further into the homes of the workers, because we know that though many diseases originate in an industry and in a shop, there is a contributory influence in the cause of disease arising on account of unsanitary and unhealthful housing conditions, on account of insufficient and improperly fed employees, and on account of too great a consumption of malt and alcoholic liquors. We know by experience that these influences contribute largely to the cause of disease of men and women.

At the present time it seems to me that what is needed is a standardization of physical examinations and carried out further, a standardization of occupations.

The only standard examination blank that I know of at the present time that is used in making and recording physical examinations is one that was compiled two or three years ago by five physicians connected with corporate or industrial health departments in Chicago, at the request of the institute of which the last speaker is president. Many of the industries in this city are using this blank. While it is fairly satisfactory, I think, being one of the compilers, I may be permitted to say that it can be improved upon.

There should also be a classification of occupations and industries, because, for example, the worker in a machine shop does entirely different work than a laborer in a drygoods store or some other establishment, consequently the physical requirements are different.

In conclusion, to get the most benefit out of physical examinations and a general medical supervision we should, I believe, as the essayist of the afternoon pointed out, have a uniform system or plan of doing this work.

THE CHAIRMAN: Now, gentlemen, we have gotten along very well. We are a little bit ahead of our schedule, so I think we can very profitably spend some time in informal discussion of this paper.

I want to announce that, as a part of Doctor Patterson's paper or shown in connection therewith, there will be a moving picture of a "head-on" collision between two trains. Bear that in mind, if you please.

DOCTOR ROYAL MEEKER: Mr. Chairman, I do not wish to contribute anything to this discussion. I was intensely interested in

the paper by Doctor Schereschewsky and the discussion that followed it. All I want to do is to ask a few questions, if Doctor Schereschewsky will allow me. I should like—if he feels at liberty so to do—if he would state a little more precisely to us just what findings were reached in the investigations into the sanitary conditions in the garment trades in New York City. I should also like if he would tell us a little more precisely how he is able to differentiate between the illness showed in the garment trades in New York City and any other industry—any allied industry or any other industry that is not allied. If Doctor Schereschewsky will answer.

THE CHAIRMAN: If you have further questions to ask Doctor Schereschewsky, this is your opportunity.

MR. H. W. FORSTER (Philadelphia): The only speaker on this subject who referred to the subject of objections to physical examinations was Doctor Sachs, and he said that no objections had come from any source. I have heard that there have been serious objections offered in some industries to enforced physical examination. And I think that from this large assembly we can get some evidence as to whether that has been an important factor or not in this very important movement. Second, I should like to know whether physical examinations are required of all employees as a factor in their remaining in the employ of the company. And third, whether any discrimination is made in the sexes. Some of the concerns of which I know have hesitated to put the women employees under the same sort of examination as the men.

DOCTOR PATTERSON: If I may, I would like to answer this question of Mr. Forster. In three of the plants with which I am connected, we have—and have had for some time—a system of thorough, careful medical examination of all workers for employment, irrespective of the fact whether they were men or women. We have not, in the plants with which I am connected, had any objection whatsoever on the part of the individual workers to physical examination, and we make it a rule in those plants that every worker who applies to us for a position shall not only be physically examined at the time of that application for employment, but furthermore that those workers shall be re-examined at a yearly interval, in order to determine whether or not the particular work with which

they are engaged has had any effect whatsoever upon their health.

As to whether or not there is objection, I am told that the largest trade union body in the United States stand as one and a unit in opposition to the physical examination of workers. Fortunately for us we do not operate with union hands; we, therefore, have not had this opposition. We have carried on this system of medical examination. The only difference in the examination between the men and the women is that the men are stripped and the women are not. In every other respect the examination is carried on as completely as is possible for physical examination to be.

We believe, after an experience of four years in an industry employing many thousands of hands, that we are perfectly convinced that the physical examination of these workers has resulted in a very great benefit to the workers themselves. It is our practice where we find any one suffering as from a defective vision, from a hernia or from any condition which medical skill can render to send that person to a private ward which we maintain, where they receive the best medical and surgical attention that money can buy them, and while they are in that ward we pay them three-quarters of their wages.

We are convinced that it spells efficiency in output and that the workers that we employ produce a more competent finished product than where a medical physical examination is not enforced. (Applause.)

DOCTOR LEE FRANKEL (Sixth Vice President Metropolitan Life Insurance Company, New York, N. Y.): If questions are in order, I should like to ask the previous speaker what would be done in the case of a man who was found to be physically incapacitated as the result of a re-examination after he had been in the employ of that establishment some years? If the re-examination brought out the fact that that man was practically unfit for work after the hospital treatment had been given, and he then returned still unfit for work, what would be done with the employee under those conditions?

DOCTOR PATTERSON: As far as Harrison Brothers & Company is concerned, I want to say that we have a pension list, on which we will place any employee who has served the company faithfully.

and is unfit for work by reason of physical disablement and pension him at 75 per cent of his salary. We have a list today of a great many names.

MR. T. H. CARROW (Pennsylvania Railroad, Philadelphia): Are questions in order now or general discussion?

THE CHAIRMAN: Go as you please.

MR. CARROW: Necessity is the mother of invention, and as far back as 1886 the Pennsylvania Railroad realized the necessity for having a medical department. It was in that year they established their relief department, and since then it has gradually developed into a sort of a scientific organization, until today on every division of the railroad and on all the larger divisions, they have a number of physicians. Out of 90,000 men who were taken in the service in one year, 70,000 were physically examined and placed on the rolls in accordance with the requirements of the medical department. Those who were not examined were laborers of the lower type, who were hired for temporary service under conditions which would not permit of the physical department to examine them.

As to the taking care of the unfit, it is a very common thing for a very faithful and efficient engineer or brakeman or flagman to develop in the places they work disability that unfits them for their work, and I have yet to hear of any case where the railroad did not provide satisfactory employment for those people who develop incapacity.

So for those industries or large manufacturing establishments here who have not yet experimented with medical treatment and a medical organization, we can say with a great deal of thanks to our department, that it has given us a great deal of success and we feel satisfied that medical organization is absolutely indispensable in any modern business. (Applause.)

THE CHAIRMAN: I think Mr. Gompers, in his discussion of this subject, alluded to a difference between the procedure that was possible in an industry that was not very closely in competition and other industries where the industry was closely in competition. That has nothing to do, however, with the gentleman I am going to call on now. I am informed that Mr. W. N. Fitch of the B. F.

Goodrich Company has something to say on this point. Is Mr. Fitch here?

MR. W. N. FITCH (B. F. Goodrich Company): Since the first of the year we have had physical examinations of our employees. We have examined among our men—those in the mill—about 10,000, and those whom we have hired since the first of the year, making something like 16,000 men. Last week we made one more move and started physical examination of our girls, starting first with our offices. We employed a lady nurse and a lady doctor, fitted up a room, being very particular to make everything sanitary in every detail. The girl is tested for her eye, ear, teeth, tonsils, adenoids, by the nurse, who had been specially instructed in this work for two or three months by Doctor Stevens. The girl is then given a sterilized gown, a sterilized comb and a towel, and she steps into a booth and disrobes—putting on the gown, and using the towel for the stool which is in the room. The comb is for use in fixing up her hair after she has been physically examined. She then passes into the doctor's office and there the doctor—before examining her—removes all robes and towels which have been used, throws them away, and uses absolutely sterilized instruments. She washes her hands and proceeds to examine the girl just the same as we examine men. She discusses her condition with her, persuades her to ask questions. When we started this—in fact, two or three days before this started—there was general discussion among the girls; in fact, they were in a panic. We immediately picked out eight of our most reliable girls and had them submitted to a physical examination that very day, and since then they are all in favor of it. We have had very little dissension. There was only one girl in the whole batch of office employees who “kicked” and stood firmly against examination. Of the whole 16,000—10,000 of whom were in our mills—we had only two men who absolutely refused to submit to the examination. We got them into the office and talked with them, and they were then satisfied to go through with it.

The two men who refused were very old men. They were fine specimens and undoubtedly there was nothing the matter with them; they just had that idea that they would not be examined, and rather than be examined they resigned.

Just how far we shall carry this examination is a problem, but

we are thoroughly satisfied that it goes hand in hand with "Safety First." We have been very much interested in the health of our employees. We have four surgeons in our employ. We have two hospitals. We have six graduate nurses. There is a nurse on duty in our hospital all the time, day and night. We employ three visiting nurses. We find great results from that work. For instance, a boy who has been working for us a month has not drawn much pay, is reported sick; we send a nurse out there and find him lying at home at his boarding house with tonsillitis, high temperature, and no friends. The landlady has no interest in him except to get the money which is coming in for his room and board. The nurse gives him a bath, sees him when his doctor comes in, takes care of him, furnishes the necessary funds to take care of any needs that he may meet, and he is soon sent back to work. He is brought nearer to us. He is a better employee. We feel that physical examination in the end is going to bring our employees closer to us. Those who have hernia are taken care of and are placed in some position where they don't have to do so much lifting. There is one thing particularly that we found throughout our mill, and that was bad eye-sight. Faulty vision represented the highest percentage of defect, and we have taken it up with every man having bad eye-sight and persuaded him to go and do something for his eyes. In a majority of cases the men are doing it. (Applause.)

DOCTOR FARNUM (Surgeon Avery Company, Peoria): There is a particular thing that has failed to come out in this discussion which seems to me to be one of the vital points in this whole matter. This entire question of medical supervision and medical examination of employees does not bring us to any goal unless it gets us better men. It doesn't do a bit of good to turn out a bunch of physically perfect men. That is not going to get you any place. The thing that is going to get you something is to secure a man absolutely compatible with the job he is going to do, and I don't care whether he has got two legs or one—it doesn't make any difference. The physical examination of these men goes further than that, and the particular thing that has not yet been brought out is the getting of some one in authority into touch with the individuals. When you get some one in authority in touch with your individual work, you are making better workers. You will get a little oppo-

sition in spots when you start physical examination and medical supervision, but you can wipe that out just as easily as can be. The whole application of this thing is a matter of "Safety First," and you cannot get "Safety First" without co-operation. You cannot get co-operation unless you get into touch with these fellows. You have got to meet these men on common ground, and there is no one in your plant who will do it so well as your own doctor and his assistant. When they are giving these men their examination, and in the follow-up work to come afterwards, you will find that you are dealing with a mighty fine lot of men and a mighty human lot of beings. They tell us that 90 per cent of all these men are honest, and I would like to raise it to 99½ per cent. Once in a while you will run across a crook, but just the minute these men get the idea that you are dealing squarely with them and the minute they get the slogan of the Avery Company in front of them, and that is the fact, as we constantly tell them—inspection cannot possibly profit any of us until the men have profited first—we have a bunch of co-operators. It gets to be a nuisance sometimes when they bring you not only their physical troubles and ailments, but bring you their family troubles; but just the same that is one of the best things I know for good relations between the men who employ and the men who are being employed.

I should like to ask Doctor Harvey how he follows up his medical supervision. And I am glad to hear of this careful medical supervision and not physical examination of employees, because examination of employees is only a part in the medical supervision of them. Down at the Avery Company in Peoria, we started this thing pretty nearly three years ago.

DOCTOR OTTO P. GEIER (Cincinnati Milling Machine Company, Cincinnati, Ohio): I coincide in what Doctor Farnum has said in so splendid a way. There can be no objection to medical supervision in its finest form if men are given the opportunity of appreciating what this is going to do for them. You men have been talking about Safety measures as being worth while, because there is, in the first place, a humanitarian attitude in the matter, and second, because it pays. Now, above and beyond, you have said that you not only get both of these things, but you get the spirit of co-operation in your men. Doctor Farnum has told you that it is

by this co-operation that medical supervision can come to your factory without difficulty. If you are enthusiastic in any degree—and you have shown yourself to be about the Safety movement—you haven't any idea about how enthusiastic you are going to be about medical supervision.

Doctor Schereschewsky's paper has boldly argued for a reorganization of industry along intelligent lines. We are supposed to have industry organized along the most intelligent lines, and yet they have failed to buy labor intelligence. His paper really argues for an intelligent purchasing department for labor, and in connection with that will come the physician with his supervision, with his medical examination and his advice, and that advice will not be limited to medical service and advice to the individual, but will go to the medical advice of the members of the worker's family. So I think that Doctor Schereschewsky is arguing for an intelligent labor department in industry.

Following your medical care comes your social advice, and then, after all, you have produced that thing which we all want—new points of contact between industry and the employee. That is what you are working for. That is what you say you want. It is the most tangible way to get it that I know of.

Enthusiasm through co-operation between the employer and the employee will bring about a result such as you have not dreamed of, I think.

Now, as to cost, I think the doctor's paper has indicated that it is not burdensome, and as for small industries, that can be taken care of in groups, because that is already under way in Cincinnati, where doctors will take care of certain small groups of industry.

And just one more warning, don't take the "fake" doctor. Don't take the cheap doctor for this work, but take the best doctor you can get in the city, because it is a big man's job.

THE CHAIRMAN: Gentlemen, we have evidently struck a vein that will stand a lot of mining. But in order to carry out our schedule, I think we must bring the discussion to a close.

MR. R. T. CLOVES (National Lamp Works, Cleveland, Ohio): Mr. Chairman, all the arguments so far have been in favor of medical examination. I should like very much to hear some views of men who may be opposed to it. It seems to me that we as em-

ployers may order physical examination of all our employees, but if somebody should order a physical examination of all the people in the country, including ourselves, I am afraid that we might object when it came to a physical examination of our wives and our daughters. At least, I think a great many men would.

Then there is another point; there are certain industries in this country which are somewhat a monopoly, and who are able to spend large sums in service work, and who are able to pension those employees who may be found in their employ unfit for work. However, the age of competition is growing constantly, and it may be that some time when an employer finds an individual in his employ who is not fit to continue work, he may be very much influenced by dollars and want to throw that man out because of very stern competition and his inability to meet the competition of the other fellow. And then what is going to become of the effect on the employer and the effect on the employee? And also there is going to be sometimes a lot of men who have been rejected by various concerns. They have gone to one place and then they have gone to another and been rejected by all of them. What is going to happen to these people? Who is going to take care of them? It may make it necessary for the State to take care of these people who are rejected. (Applause.)

THE CHAIRMAN: Just a very few minutes more for the presentation of the opposition.

DOCTOR J. C. STUBBS (Surgeon, National Malleable Castings Company, Chicago): I can answer the question asked by the gentleman from Cleveland. Our firm has been making examinations of employees for some little time. We have found some who, while "culls" from surface appearances, were not "culls" when you came to look into the man's situation. For instance, to take as an example a man who was working in the foundry and putting up an excellent day's work. When it came to an examination we found that pus was running down his leg, and an examination revealed that he had a hole through the femur. He was liable at any time to spontaneous fracture of that leg. We sent him to the hospital. We operated on him and he is now just as good as any other man in the foundry and is continuing to put up a good day's work. That answers part of the "culls."

THE CHAIRMAN: I think the chair will take the privilege of sending, through the stenographer, a communication to Mr. Campbell and Mr. Cameron, to the effect that this is a subject in which evidently a very large part of this membership is interested, and that in providing for the program of next year they take cognizance of this state of general interest; that they give opportunity for a discussion of the "pros" and "cons," such as has been proposed by Mr. Noyes, and a discussion of the ideas put forth by Mr. Gompers, to which I referred a few moments ago.

But we are getting very near the time when we must proceed to the next paper, and, therefore, unless there is objection on your part, we will close the discussion or will proceed to close it by asking Doctor Price if he has anything further to say? Has Doctor Sachs anything to say as to any point developed in this discussion? Has Doctor Harvey?

DOCTOR A. M. HARVEY: Doctor Farnum asked me a question. The time is so brief, however, that I will answer that question in the record. I would say, however, that this physical examination does not necessarily mean the rejection of men. It means, as Doctor Farnum brought out, that they should be assigned to work that they can do, and I agree with the speaker that public sentiment is not ripe now for a compulsory medical supervision. It must be carried out voluntarily, co-operatively, and be of common benefit to all concerned.

THE CHAIRMAN: I wish that the plan proposed by Doctor Harvey might be followed by all the gentlemen who participated in the discussion. In their printed discussion they might respond to any point raised on which they are specially prepared to speak with authority.

Now we will close this session with a contribution from the essayist, Doctor Schereschewsky.

DOCTOR SCHERESCHEWSKY: Mr. Chairman, I am very glad to see that this discussion has been so full. There are only one or two things which I wish to say, and I wish to reply particularly to the questions which were raised by Mr. Meeker, Commissioner of Labor Statistics. Mr. Meeker first of all asked what we find as the result of our investigation in New York. I want to say that

unfortunately I am not able to state that at present, for the reason that this investigation was only concluded but a few days before I came here. As the data which we collected has not been tabulated, I am unable at this time to make a definite statement as to what the diseases were that we found among the garment workers. We have that data, however, and when the report appears, as I trust it will by the first of the year, everybody who gets that report will secure the complete statement on that matter.

The second question which Doctor Meeker put was how can one differentiate between the diseases of garment workers and as applied to that industry from the diseases common to other industries? I want to say that you can't differentiate in the present state of our information. But what the Public Health Service proposes to do is to carry on similar investigation into other industries, and when we have examined the comparative number of workers in all the principal industries, then we shall be able to state in precise terms what the action of that particular industry is upon the health of the worker engaged therein. Until, however, we get that data, we are unable to answer that question, and what I hope from the general introduction of the system of medical supervision, is that this data, which is very necessary, will come to our hands in the shortest possible time. What we need now is a special classification of industry and, from a health standpoint, the classification of effects.

Now, for instance, the Bureau of Labor Statistics is at present engaged in the work of classifying industries. It is equally the part of the Public Health Service to be engaged in the work of classifying the individuals upon the health of the workers in those particular industries.

All of this is simply pioneer work, and points out the future goal we ought to attain, which as I indicated in my paper, is that of rendering that industry safe. It is by the adoption of such methods, particularly the medical supervision of employees, that in the future we will attain data which will enable us to reach the goal. That is all I wish to say in closing this discussion. (Applause.)

THE CHAIRMAN: I am requested to announce that there will be a meeting of the executive committee at five o'clock, and also that the Round Table Discussion which has been announced for 9:30 tomorrow morning will be at 9:00 instead of 9:30..

Now, gentlemen, I regret that I find it necessary to leave this meeting to attend another meeting, so I will ask Doctor Schereschewsky to take charge of the meeting and to act as chairman during the remainder of the discussion.

(Doctor Schereschewsky took the chair.)

THE CHAIRMAN: Gentlemen, I certainly shall be an inferior substitute for Doctor Evans, who I am sure has impressed you with his presence, and his ability to conduct the program in the most efficient manner. However, during his absence, I shall try to fill his place to the best of my power and ability.

You have all had an opportunity already of hearing Doctor Price. Doctor Price has studied the question of Industrial Sanitation and the standards provided by law and regulation in this country and abroad in an extremely exhaustive manner. He is now going to give us an address on "Industrial Safety Standards." I think the question is one of the most important we can possibly have. Upon the establishment and maintenance of proper hygienic standards depends a great part of our work in making industry safe. It, therefore, gives me great pleasure to introduce to you Doctor G. M. Price, Director of the Joint Board of Sanitary Control, who will tell us about such Industrial Sanitary Standards and what we may hope for.

DR. G. M. PRICE: Mr. Chairman, Ladies and Gentlemen: By industrial sanitary standards are meant such measures, rules or criterions as are applied to conditions in industrial establishments affecting the health of the workers.

The need of establishing definite industrial sanitary standards, the importance of uniformity in the application of the rules of industrial hygiene and the evil results of the absence of proper standards and of a lack of uniformity of sanitary rules need no further demonstration.

All who have studied the subject are full well aware of the anarchical conditions existing in modern factory legislation, of the contradictory provisions as to sanitary conditions found in the statute books of states and municipalities, of the lack of definiteness and order in the rules, regulations and precepts in relation to safety and sanitation in factories.

Labor laws and industrial codes are full of general, vague and

indefinite orders to provide adequate exits, suitable ventilation, proper light, sufficient toilet accommodations, etc., leaving the factory owner to guess the meanings of these terms, granting labor commissioners undue discretionary powers in the interpretation of the laws and making enforcement impossible for the factory inspectors.

The fault of the absence of industrial sanitary standards lies with industry itself and with those responsible for its conduct. Too long has the human factor in industry been totally ignored—too long have the captains of industry failed to see the correlation of industrial justice with industrial efficiency—too long have they in their impetuous hunts for profits forgotten to take care of the goose that lays for them the golden eggs.

Hitherto factory legislation has come as the result of compulsion. Safety and sanitation in factories had to be choked down the throats of reluctant manufacturers by ignorant, politically biased and indifferent legislators, and the gains in protective sanitary measures were made by deals and dickers, through threats and compromises.

The results speak for themselves.

What are the remedies?

- (1) The recognition by industry of the fundamental principles of industrial efficiency and industrial justice and their correlation and interdependence.
- (2) The recognition by industry of the duty of self-control.
- (3) The recognition by industry of the rights of the workers and of the general public in industrial control.
- (4) The recognition by industry that democracy and representative government should be the basis of industrial as well as political government.

There is no reason why we should look to legislatures for the establishment of industrial sanitary standards, nor why these sanitary standards should not be established by the industry for the industry.

Who more competent to legislate for industry than those directly engaged therein? Who more able to enforce sanitary standards than those working in the industrial establishments?

These principles are not new. They have been successfully applied to industrial conditions abroad as well as here.

For nearly thirty years industrial Germany has been guided not by legislative ex-cathedra decrees but by standards adopted by the sixty-six powerful Trade Associations of Germany which, after thorough and comprehensive study and survey of the field, have, in co-operation with the government, established definite and uniform standards of safety and sanitation applicable for every industry—standards promulgated after due deliberation and enforced even by their own agents and by the appointees of these Trade Associations.

Within the last few years the three most important textile trade branches of England have, after due conference and study and co-operation of the manufacturers, the workers and the representatives of organized labor and the factory inspectors, issued special rules and regulations destined to become the standards of safety and sanitation for those branches of industry.

For the last four years two of the largest industries in New York City, embracing twenty-five hundred manufacturers and eighty-five thousand organized workers, have in their Joint Board of Sanitary Control established their own sanitary standards and with marked success enforced these standards by their own agency.

The Industrial Commission of Wisconsin has taken the lead in this country to free factory legislation from political shackles and by judicious co-operation with enlightened employers and progressive workmen succeeded in establishing safety and sanitation standards which are achievements in industrial hygiene and are followed though feebly by the several industrial boards in other states.

Finally, this great movement which has crystallized itself in the National Council for Industrial Safety marks another significant step to industrial self-control and clearly shows the tendency of the age.

The days of political autocracy have, in this country at least, gone long ago. The days of industrial autocracy are also slowly, though surely, passing.

The solution of the problem of establishment of Industrial Sanitary Standards—aye, the solution of the Labor Law enforcement, the solution of the labor problem itself—lies in industrial self-control and industrial democracy.

THE CHAIRMAN: I will ask Doctor B. S. Warren of the U. S. Public Health Service, Washington, to open the discussion on Doctor Price's paper.

DOCTOR B. S. WARREN: Mr. Chairman, Ladies and Gentlemen: Doctor Price comes as a representative of one of the industries which has "sanitized" itself, and to my mind, while it is unique, it is the solution of the problem of the sanitation of industry. The National Government, the State Government and the City Government cannot afford the expense of enough inspectors to properly keep under observation the industries of this country, so, to my mind, after studying this problem for some time, it is the duty of the industries to assume this, just as you have the "Safety First" movement, and by co-operation between employer and employee have an inspector in every room or in every place of employment in the country. And for that reason the sanitation of industry by itself is one of the problems. Of course, the Standards must be worked out very carefully, and for that reason your Committee on Industrial Hygiene will have to take a long time to work out these Standards, submit them to the people who are most interested, both from a commercial standpoint and a scientific standpoint, and then have them gone over by your Executive Committee, and then probably have them act on them and put them out as a part of your constructive program for Industrial Safety and Sanitation. I think Health is just as important as Safety in this proposition, and you will find that you will save more by your Health and Sanitation movement than you will by your accidents. In other words, about 30 per cent of your accident rate in the high accident industry is high. When you work in the other 70 per cent you will obtain equally as good results.

THE CHAIRMAN: I have an announcement to make. Immediately after the close of the session on Industrial Hygiene, on account of the length of the program, there will be a demonstration in this room of first aid, resuscitation and burns, by the United States Bureau of Mines. This will be followed by fifteen minutes of motion pictures, "First Aid at the National Mine Safety Demonstration before President Taft at Pittsburg, in 1911." After which the first portion of Doctor Patterson's pictures will be shown upon the screen.

PRESIDENT CAMPBELL: May I interrupt you a minute? I remind the members that the Entertainment Committee has provided an automobile ride for the ladies through the parks of the city tomorrow afternoon, and reservations for that list should be made before six o'clock.

DOCTOR PATTERSON: Mr. Chairman, it occurs to me that we ought to have some emphasis placed on the fact that Sanitation is the handmaid of Prevention. If you take a factory where lighting conditions are not proper, where you have the light circumscribed by smoke, by dust, by fumes, by escaping steam, by no matter what, you are simply inviting to yourself more accidents, and I believe we all ought to take home, out of this discussion on medical supervision, the fact that to medical supervision is due the wide sweep of proper factory lighting, and out of it all we will get the fact that this body started out to accomplish fewer accidents and healthier workmen.

THE CHAIRMAN: The question of Industrial Standards in Sanitation is really a very important one. I think we ought to develop some interesting discussion on this matter. It is unquestionably the fact that if we set out to promulgate certain industrial improvements in the way of Safety and Health in the Industry, we should have some Standard by which to set them, some Standard which would measure the minimum of the requirements which we ought to place in operation.

There is one solution that Doctor Price has indicated which has been very successfully carried on in New York, and that is for the industry to set its own standard of minimum requirements and then to proceed to "sanitize" itself. I should like very much to hear from some other gentlemen in this session as to what their opinions on this matter are. If there is no further discussion on this subject we will have the demonstration of first aid and resuscitation and burns.

MR. WILSON: While you are waiting for the motion picture machine to start in operation it may interest some of you to know—doctors, probably, in particular—that these men, Mr. Sullivan and Mr. West, who are attached to the Bureau of Mines rescue party, and all the others who are in attendance at the car, are miners

who have had this first aid instruction. They have had no training as surgeons. They have had much of the training of hospital corps men, however. They have been drilled in this work by first aid suggestions, and one thing which has been impressed upon them has always been that they shall so treat and handle and dress the patient, that they may bring him to the surgeon at the earliest possible moment, and as nearly in the condition in which he was found as possible. In other words, they make no attempt to perform the functions of a surgeon, only those of a first aid man.

It might further interest you to know while we are waiting for the film, the Bureau of Mines, by sending these men about to the mines and the mills in the last three or four years, has trained 15,000 miners in this work.

After the exhibition by the rescue crew and of the moving pictures, the meeting adjourned.

Note—The following is a copy of the address which Dr. Young would have delivered had he been present:

RELATION OF INDUSTRIAL SANITATION TO PUBLIC HEALTH.

BY DR. G. B. YOUNG, Health Commissioner, Chicago, Ill.

To properly consider the effects of Industrial Sanitation it is first necessary to agree upon a definition of what it is. Broadly "Industrial Sanitation" is "The establishment and maintenance in places of employment of the conditions necessary to protect the physical health and increase the physical efficiency of persons employed therein, and the production of the results of such employment in a manner that will protect the well-being of those using or consuming the same," or, more briefly, "The securing of the conditions necessary to improve the sanitary status of the plant, the producer and the product."

In a larger sense I think this definition is accurate, but perhaps it is too comprehensive for the purposes of our meeting this afternoon, so I will confine my remarks to a consideration of the effects on the general public health of industrial sanitation as related to the plant and its employees.

The effects of successful industrial hygiene upon the general

public health are of the very greatest importance. They are obtained in two ways: First—By the improvement in both physical condition and standards of personal hygiene of the employees themselves; second, by the effect produced upon the general public opinion as to sanitary standards by reason both of the utilization by such employees in their private lives of the lessons learned in their places of employment and by their dissemination of these lessons among their friends and acquaintances.

Every plant in which intelligent effort is made to maintain sanitary conditions of employment and to inculcate sound principles of personal hygiene becomes to a greater or less extent a center of educational influence.

It is unfortunately true that while many employees accept with complaisance the results of improvements in their working environment, they are either indifferent or even sub-consciously hostile to attempts to improve their standards of personal hygiene, but in time the seeds of sanitary knowledge begin to bear fruit, and though perhaps unconsciously, an appreciation of good hygiene begins to develop. Human nature is so constituted that man is pretty sure to react to conditions which tend to develop his sense of personal importance, so sooner or later the use of an individual towel or the possession of an individual drinking cup begets a sub-conscious unwillingness to return to more primitive conditions, even though skepticism or indifference persists as to the reasons for the change in habits.

A man who spends his days in a clean, well-lighted, well-ventilated workshop will in time become increasingly intolerant of dirty, dingy and stuffy places of residence, and more critical of insanitary conditions generally.

This development may not be general, and when it does occur may be of slow growth, but some of it does occur and the individuals who thus react to their surroundings become the apostles of a developing sanitary creed.

That the personal well-being of those employed in places of industry subject to sound sanitary control and who pass their working hours under conditions unfavorable to exposure to infection renders them less liable to illness, is of great importance to the public health. If a thousand men are reasonably well protected against tuberculosis for half of their working hours the chance of

that thousand becoming foci of danger to others is greatly reduced. Illustrations might be multiplied.

This protection of the public health, however, is negative, or, let us say, static, but the development of a growing appreciation of the meaning and importance of sound sanitation is, in the promotion of public health, a positive or dynamic influence. It opens the eyes to an appreciation of insanitary conditions. It opens the mind to an understanding of the reasons for measures protecting the public health. It enlists at least some individuals in the army of those who are ready to fight for better conditions, for clean food, for safe water, for good housing, for protection against disease.

The sanitary regeneration of no community can be achieved by the efforts of no one man. A department of public health can never be more than the partial expression of the aspirations of a few individuals until an informed public opinion gives practical support to the ideals of sanitation.

There are many methods of developing such a public opinion, but in my opinion few influences are potentially as important as the informing experience of those who benefit by the results of intelligent industrial sanitation.

ROUND TABLE DISCUSSION.

The second Round Table Discussion of the Third Annual Safety Congress of the National Council for Industrial Safety was held at the La Salle Hotel, Chicago, Ill., on Thursday, October 15, 1914, at 9 a. m., with Mr. L. R. Palmer, Chief Inspector, Pennsylvania Department of Labor and Industry, acting as chairman. Subject: Educating the Workman. The following-named gentlemen took part in the discussion:

The Chairman.

H. B. Adams, claim agent, The Aurora, Elgin and Chicago Railroad, Wheaton, Ill.

H. E. Ackerly, safety engineer, Eastman Kodak Company, Rochester, N. Y.

M. E. Arkills, safety engineer, The Pullman Company, Pullman, Ill.

J. H. Ayres, superintendent, safety, sanitation and welfare, National Tube Company, National Works, McKeesport, Pa.

L. D. Burlingame, industrial superintendent, Brown & Sharpe Manufacturing Company, Providence, R. I.

Thomas H. Carrow, safety inspector, Pennsylvania Railroad (insurance department), Philadelphia, Pa.

Dr. Lucian W. Chaney, U. S. Department of Labor, Washington, D. C.

G. W. Davison, switchman, Chicago & Northwestern Railway Company, Fremont, Neb.

J. M. Eaton, manager, welfare department, Cadillac Motor Car Company, Detroit, Mich.

W. E. Firth, safety engineer, Midvale Steel Company, Philadelphia, Pa.

H. W. Forster, chief engineer, Independence Inspection Bureau, Philadelphia, Pa.

Lee K. Frankel, sixth vice-president, Metropolitan Life Insurance Company, New York, N. Y.

Houston Gaddis, service director, Ferro Machine & Foundry Company, Cleveland, Ohio.

George K. Gibson, Consolidated Water Power & Paper Company, Grand Rapids, Wis.

E. P. Gleason, secretary, safety organization, Nekoosa-Edwards Paper Company, Port Edwards, Wis.

F. H. Graper, safety inspector, International Harvester Company, Milwaukee, Wis.

Henry A. Hale, Jr., manager, bureau of safety, American Mutual Liability Insurance Company, Boston, Mass.

Carl M. Hansen, secretary, Workmen's Compensation Service Bureau, New York, N. Y.

Dr. A. M. Harvey, physician and surgeon, Crane Company, Chicago, Ill.

T. J. Holland, machinist, Chicago & Northwestern Railway Company, Antigo, Wis.

Paul E. Illman, manager, welfare department, National Cash Register Company, Dayton, Ohio.

J. W. LaShelle, operator, Chicago & Northwestern Railway Company, Boone, Ia.

T. H. McKenney, assistant superintendent, labor and safety, Illinois Steel Company, Chicago, Ill.

A. T. Morey, assistant to president, Commonwealth Steel Company, Granite City, Ill.

Earl B. Morgan, safety engineer, Commonwealth Steel Company, Granite City, Ill.

J. G. Noack, train despatcher, Chicago & Northwestern Railway Company, Belle Plaine, Ia.

Dr. F. D. Patterson, director, department of sanitation and accident prevention, Harrison Brothers & Company, Inc., Philadelphia, Pa.

L. A. Phelps, superintendent, factory inspection, Avery Company, Peoria, Ill.

C. W. Price, assistant to the Industrial Commission, Madison, Wis.

R. C. Richards, chairman, central safety committee, Chicago & Northwestern Railway Company, Chicago, Ill.

Alexander Shane, bureau of safety, Middle West Utilities Company, Chicago, Ill.

J. J. Shanesy, chairman, Belvedere local safety committee, Chicago & Northwestern Railway Company, Belvedere, Ia.

S. F. Shattuck, treasurer, Kimberly-Clark Company, Neenah, Wis.

Miss Marion Skiff, section supervisor, National Lamp Works of General Electric Company, Nela Park, Cleveland, Ohio.

J. C. Smith, safety inspector, Inland Steel Company, Indiana Harbor, Ind.

H. B. Smith, safety inspector, Illinois Steel Company, Joliet, Ill.

M. W. Taber, construction engineer, Packard Motor Car Company, Detroit, Mich.

R. J. Wetzel, assistant superintendent, liability department, Southern Surety Company, St. Louis, Mo.

E. T. White, safety inspector, Deere & Company, Moline, Ill.

J. M. Woltz, safety director, Youngstown Sheet & Tube Company, Youngstown, Ohio.

Edwin R. Wright, Chicago, Ill.

George L. Wright, chairman, central safety committee, Chicago, St. Paul, Minneapolis & Omaha Railway Company, St. Paul, Minn.

THE CHAIRMAN: Our topic this morning is "Methods of Educating Workmen in Accident Prevention." Anyone has the floor who cares to take it.

MR. J. W. LASHELLE: On the Chicago and Northwestern we have made all equipment conditions practically safe; and are working now to properly educate the men. My idea in furthering the accident prevention movement is to have the Central Safety Committee prepare a set of rules which will cover every department in a railroad and in an industrial plant, to place a set of such rules in the hands of every individual affected by them, and to require him to pass an oral examination before the Safety Committee as to his knowledge of the rules. Moreover, the Central Safety Committee should invite suggestions as to the points and qualifications of a full-fledged "Safety Man" and then adopt as a standard the best description so received.

STANDARDIZATION OF RULES.

MR. T. H. CARROW: There is scarcely a practice on the Pennsylvania Railroad that is not covered by a sensible rule. Strict effort must always be made to eliminate non-sensible rules, because regulations of this faulty nature simply impair the service. In order

to maintain observance of safety rules, a tab system must be maintained as regards individual workmen; and our railroad has a plan of efficiency checks which covers every phase, safety and otherwise, in railroad operations. To gauge results in such efficiency checking, however, it is essential to maintain an accurate and systematic discipline-record. Our system commenced to keep such a record in 1911. An accident due to excessive speed had then taken place; and the late President McCrea, after noting that the record of the engineman was not what it should have been, suggested that a committee be appointed to minutely examine the record of every employe on the system. This committee was composed of three trainmasters (tetoalers) and myself. We went over the entire railroad, department by department, and analyzed the records of the men appearing on the payrolls of the various divisions. A definite report was made on each man whose record appeared open to question. Every man who had been disciplined once for the use of intoxicants was mentioned in the report; with the recommendation that he should be discharged if found to be drinking again whilst on duty. Other men whose records did not attain a reasonable level of efficiency were also indicated and the recommendation was made that they should not receive much further attention. As a suggestion to railroad men, and for what it may be worth in other activities, I may say that the fundamental safety principle is a comprehensive discipline system. The creation of such a system presupposes the creation of an extensive record system; and, so far as the Pennsylvania Railroad is concerned, we are working towards attainment of what might be termed a reasonable standard. At present, three of our practical men are engaged in the standardization of forms, methods and the like.

THE CHAIRMAN: I ask Mr. S. F. Shattuck to give us a brief indication as to reaching the men; and educating them in accident prevention.

MR. S. F. SHATTUCK: Nothing that we have done is unusual. We have followed the lines laid down by Mr. C. W. Price, of the Wisconsin Industrial Commission. Each month committee work has been done at our plant; and we have brought in new blood to this committee. As opportunity offers, we prepare attractive bulletins; and, in every way, have tried to get next to the workmen.

RENDERING FREIGHT TRUCKS SAFE.

MR. J. G. NOACK: We have heard a great deal as to what foremen and workmen should do to make operations safer and obviate accidents; but I believe that the manufacturer of machinery and appliances is in a position to prevent injuries by exercising foresight in planning against adverse happenings subsequent to wear and tear of the product turned out by him. My hobby is our freight truck; and I believe that 50 per cent of our accidents are due to brakebeams and brakerods coming down and causing accidents through catching on things. To instance a concrete happening: A brakebeam came down on October 10 at Beverley, knocked the airhose in two and caused a derailment, because the brakebeam was carried under the solid frame truck. Some of our trucks are of the skeleton type, with the brake-rigging below the sandboard; so that when they become disconnected they remain until some car inspector finds them at the journey's end. On the solid frame trucks, however, they invariably drag along the ground until a derailment is caused through their catching in some obstruction. Then again: the Live Poultry Transportation Company is building new cars. These, when loaded, and with the water tanks on the top filled, are top-heavy. Investigation of a recent derailment on the I. & N. division, which injured several of our stockmen and trainmen, proved that once the tanks were filled the car became top-heavy. I accordingly think that by attention to these features, and by co-operation with the transportation line, many of our accidents and derailments could be avoided. Another point: As a large proportion of our cold-weather accidents are occasioned through the brake-rigging coming down, the way to avoid such happenings would be to carry the brake above the sandboard.

MR. HENRY A. HALE, JR.: A word regarding the textile mills of New England, of which my company insures about 75 per cent. In these mills the help comprises people of nearly every nationality under the sun; and the units of this help are continually changing about from mill to mill. It is therefore well nigh impossible to conduct an educational campaign which will reach every employe; and we have accordingly considered it very important to reach the manufacturers of textile machinery. This we have accomplished, with the result that through the co-operation of such manufacturers

and their proper safeguarding of the machinery they turn out, the accident rate in textile mills is very low. It can be readily understood that such a machine as a cotton carder can be very dangerous if not properly guarded; and, for this reason, the co-operation I have mentioned is yielding excellent results. Incidentally I may indicate that the formation of the Boston Local Council of the National Safety Council is well under way; and, given the enthusiasm of New England manufacturers in accident prevention activity, there should be a good turn-out on their part at the next congress.

THE CHAIRMAN: The education of workmen can be considerably furthered by the organization of such "locals."

IRON AND STEEL INDUSTRIES LAG IN SAFETY.

DR. LUCIAN W. CHANEY: For the past two years I have been following the study of the iron and steel industries with manufacturers of heavy machinery. I should like to say that these manufacturers have kept abreast of the times, but regret that I cannot do so. They are lagging behind in this matter of the safety problem; and it is accordingly the duty of those of you who are buying machinery or control such buying, to vigorously proceed with the education of such manufacturers. Such education is needed. I recollect that in a recent editorial discussion in *Safety Engineering* the unanimous opinion was that the place to safeguard machinery was in the plant of the manufacturer; and it ought therefore to come to the purchaser properly safeguarded. I feel in consequence that one great function of the National Safety Council is the further education of machinery manufacturers; so that not only will "safe machines" be turned out, but safe processes observed in the manufacture of the machines themselves. Strange to say, I have found operating machinery in several plants of so unsafe a nature that the owners of these plants would not dare to sell machinery of an identical type in the open market. The time ought soon to arrive when no machinery manufacturer will sell a machine that he knows is unsafe. Now, you buyers of machinery, the remedy is in your hands. Are you going to encourage the manufacturers of unsafe machinery by cheeseparing policies in respect of price? Of course—and I say so frankly—the tendency of all machinery manufacturers is to considerably "load" the price if safeguarding be de-

manded. They will say: "Oh, this costs a lot of money"; but, while it may be true that the safeguarding of *one* machine does involve a large outlay, the safeguarding of *a thousand* machines costs very little per unit. The gist of the matter is that the manufacturer weighs up the safeguarding problem in relation to only *one* machine which he may put out tomorrow. Someone remarks: "I won't buy this machine unless you safeguard it." Thereupon the manufacturer desires to impose a heavy surcharge, and thus recover, from one solitary machine, a surcharge that ought logically to be spread over, say, 10 of its class. Ultimately, when it comes back to your price: what are you going to do in the matter? You must naturally insist on a fair price; but you can't have the cost of the overhead loaded on to one machine. You must simply insist that it shall not reach you improperly safeguarded. There is no doubt that the specifications which will be issued by the bureau of machinery will exercise a great constructive influence on the manufacturers of machinery to turn out such articles in the way they ought to be. Granted that in this country we are turning out some of the finest and safest machines that can be found anywhere, there is nevertheless a large amount of equipment made that ought never to be placed on the market; and it is your duty to call a halt to such a state of affairs.

LIQUOR MUST GO, FOR SAFETY'S SAKE.

MR. CARL M. HANSEN: Dr. Chaney's remarks interest me. At this very moment we hold the whip-hand in having an economic incentive to offer the manufacturer of machinery if we insist on his product being safeguarded according to standard. Arrangements have been made whereby the Underwriters' Laboratories, well known in the fire prevention field, will undertake the inspection and labelling, under proper standards, of what we hope will be every piece of machinery, equipment, devices and appliances used in all industries in the United States or elsewhere. Nevertheless—and admitting the urgent need of the foregoing—we realize that, even with such work done, an approximation of only 25 per cent of accidents will be eliminated. What shall we do as regards the remaining 75 per cent?—Is it not quite as important to prevent an accident which is the admitted result of depleted mental activity of the workman himself due to the excessive use of liquor or drugs?

It has been my painful duty to investigate many accidents where I have had positive proof that the mishaps would never have occurred had it not been for the liquor curse; and at this moment our bureau is considering penalizing, through an increase in the insurance-rate, any establishment or manufacturing plant which permits a rum shop within 1,000 yards of its doors. Alcoholism as an abstract proposition does not interest me. But put it on an economic basis; see it from the cold-blooded point of view of dollars and cents; and matters assume another aspect. Admitting the largeness of the American business man's heart, you will stimulate a yet greater interest by touching his pocket-book. I am not particularly interested in *how* we obtain results in accident prevention: what vitally concerns all of us is the actual securing of such results; and I don't believe we shall get worth-while results unless we place our mark of disapproval on the liquor question immediately.

MR. A. T. MOREY: We appear to have two subjects before us: the liquor question and the education of the manufacturer of machinery as to safeguarding. As regards the latter, the point is, how best to accomplish results? It has been our experience that if we merely specify that the machinery "shall be safeguarded," the efforts of the manufacturer are amateurish, owing to his ignorance of what is fit and proper. In my company's practice, therefore, we have preferred to receive the machines unguarded and then do the guarding in our own plant. It is very difficult from the mere blue print of a machine to appropriately determine what safeguards are necessary. Moreover, should we place requirements as to safeguarding when presenting the specifications, the manufacturer immediately loads the cost; and this is a decided objection. How, then, shall we place before the manufacturer the proper concept of appropriate safeguarding? It appears to me that in making the specifications ourselves, it is really a case of the customer making such specifications. I do not see any other way to reach the machinery manufacturer. Shall we take up these questions separately, Mr. Chairman, or deal with them together?

THE CHAIRMAN: You have the floor—continue.

MR. A. T. MOREY: I should like to hear a discussion on the topic of the education of manufacturers.

THE CHAIRMAN: The only reason I have permitted this discussion to merge into the actual business of this forenoon is that it is a case of educating the workmen along lines which will lead them to object to machines provided for their operation. Such objections from them will therefore tend to make our recommendations to the purchasing departments more practical and emphatic. This is the only connection I can discern between the present discussion and the whole broad question of educating the workmen in accident prevention. Now, Mr. Morey, if you have anything to say on the subject of the "boss," you are in order.

MR. A. T. MOREY: I should like more light on the subject of just where the rules of the company commence, and where the purely moral suasion comes in. The crux of the safety movement, with its features of efficiency and economy, involves a development of man power. Yesterday, Dr. Patterson put it very clearly before us that liquor is a poison. Under these circumstances, therefore, and whether liquor be taken within or outside working hours, manufacturers ought not to countenance its use at any time. Have we the right to make a rule that workmen shall not drink at any time; or have we merely the authority to stipulate that they shall not drink during working hours or just before coming to work? It is a big question.

LARGE BENEFITS OF ABSTINENCE.

DR. A. M. HARVEY: This temperance question is certainly arousing interest in this congress and in Chicago. On Madison street, a block distant from here, there is a large sign, four feet square, which bears these words: NEW SLOGAN—NOT SAFETY FIRST BUT SOBER FIRST. It has been proved beyond a doubt that alcohol is harmful to the bodily tissues. All authoritative textbooks on the practice of medicine are on record to the effect that alcohol is first a stimulant and then a marked depressant to human beings and animals; and that it is a predisposing and frequently exciting cause of disease. There is no mistaking the attitude of the Medical Profession in its views upon the use of alcohol. The abolition of alcohol from the industrial and business world would mean a marked gain in health and efficiency on the part of workmen in general; and would quickly diminish the large percentage of those who, through its ravages, are confined in hospitals and

asylums. Moreover, a sharp reduction would necessarily follow in the number of children born with physical and mental defects because of an alcoholized condition in a parent. It appears to me that if owners of factories and employers of labor would exercise as much care in eliminating saloons from the vicinity of their plants as is at present shown by saloonkeepers in their endeavor to locate near factories, both employes and employers would be benefited. In conclusion: in considering this "Safety First" movement we should bear in mind that the meaning of the term may be summed up in the expression or phrase of "Everyone Doing the Right Thing."

MR. PAUL E. ILLMAN: On the point of the general education of workmen, one of my company's methods is centered in its suggestion system. We yearly offer several thousand dollars in cash and other prizes to men who can suggest improvements of all kinds; and they are especially urged to make safety suggestions. Last year, from a force of several thousand men, about 4,000 such suggestions came before us; and the greater number of these were on safety features. This suggestion contest makes the men think about their individual tasks and leads them to improve their machines or their methods. It also develops in them the right attitude of mind. The men say: "Well, now, here we are doing these things: we are working them out," and, in this way, a co-operative spirit is aroused. From my own observation of teaching methods, I think there is too much of the "Hammer and Tongs" practice in getting after the workmen. We are not "insidious" enough. Of course, good methods are essential to proper education; and I think that these methods will be found in the securing of a better co-operation than has previously existed between the employer and the employe. With this end in view, we are now putting matters before the workmen's committees, leading them away to some extent in the control of a piece of work, or the solution of a problem, while the officers of the company simply act in an advisory or supervisory manner. But the great tendency is to lead the workmen to solve the problems themselves. And, in so doing, we are making satisfactory progress. Our suggestion system is one of our most fertile methods in procuring results in accident reduction, and in making the men "think Safety" in harmony with ourselves.

SAFETY MUST BEGIN AT HOME.

MR. H. B. SMITH: My interest in the education of the workmen is intense; and I would like you to place yourselves in the position of the man to whom his wife says ere he leaves for work in the morning: "Now, don't get hurt, John"; with one of the children adding: "Do you know your rules, papa?" I think this is about as good an education as any man is going to get. The point is "How to get Safety education into the home." While there are many methods, I think the most effective is to show motion pictures to the children, and also give them lantern slide talks. At our first meeting of this nature at Joliet, we spoke to 7,000 children; and it took us six weeks to do it (every day, excepting Saturdays and Sundays), because the room we utilized contained only 400 seats. The next year we talked to over 8,000 children; and this took only a little more than a week, because the largest motion picture theater in the town granted us the use of its premises free. One day I talked to the superintendent of schools about the "Safety First" movement; and he thereafter prepared a set of rules called the "Nine Nevers," most of which referred to street car matters. It then occurred to me that it would be a good idea to get the street car company to transport the children to and from the motion picture show, and after putting matters clearly before the manager and the superintendent of that company, they agreed to do this for us.

MR. J. M. EATON: I think this congress is agreed as to the harmfulness of the liquor habit; and I would accordingly suggest that a resolution might properly be adopted on this subject.

THE CHAIRMAN: That is a strange coincidence. I have just sent such a resolution to Mr. Campbell for his official consideration. I think it is quite proper for the Round Table Session to extend the suggestion to the Resolutions Committee. I personally advocate elimination of alcohol in the industries; and shall be glad to extend this resolution to the Chairman of the Resolutions Committee; but he cannot act upon it until it has passed through the hands of the Executive Committee.

MR. G. W. DAVISON: The employes of the Chicago and Northwestern at Fremont know well that a visit to a saloon means a

trip to the yardmaster's or the trainmaster's office. This they do not like; and, although they may not be disciplined, they will receive at least a good talking. The second time they are taken to either of these offices signifies suspension from work. This procedure on our part has a good influence on the men.

THE CHAIRMAN: Will Miss Skiff now tell us something of the education of workmen as carried out at the National Lamp Works, Nela Park, Cleveland?

CO-OPERATIVE LUNCHROOMS REDUCE ALCOHOLISM.

MISS MARION SKIFF: Our efforts to abolish the use of liquor were primarily taken up through the installation of a lunchroom. Heretofore, the workmen at our various shops had taken their luncheon at nearby saloons. After investigation, the exact amount paid by the men for luncheons at these saloons was established; and the number patronizing the saloons determined. Coincidentally with the inauguration of the lunchroom, the workmen elected a committee to act for them in co-operation with the lunchroom or service department manager in the organization and operation of the lunchrooms. This committee has proved a very effective means of education among the workmen. They know the exact costs, the object, the policy and the aim of the management in the establishment of a service department or more particularly of the lunchrooms; and I can say that in several of the smaller shops of the National Lamp Works the question of beer—which is largely the issue at noon among the men—has been almost stamped out. We provided a lunch which was cheaper than they could obtain anywhere else for the same money; moreover, the place for serving the lunch is attractive and comfortable. Naturally through the co-operation of the factory members in the lunchroom management, it was to their interest to get all the men in the shops to patronize the lunchroom.

THE CHAIRMAN: Now for another point.

MR. H. W. FORSTER: I suggest that for a few minutes we discuss the question of educating employes to appreciate the benefits of medical supervision. I feel that there have been difficulties along this line; and it will accordingly be valuable to us to learn how these have been overcome.

MR. W. E. FIRTH:—Eliminating the question of machinery pure and simple, I call to mind three serious accidents caused by sledge-hammers, and involving the loss of arms. We have a toolroom, from which all tools are issued by check; and the tools are returned promptly after the work is finished. But a sledge-hammer doesn't seem to be a fool, and in all probability it is returned only when the man leaves his work. You would be rather surprised to see some of these sledge-hammers. Heretofore, the foreman was the only medium by which we could ascertain the condition of these sledge-hammers; so we at last devised a plan to have all of them allocated through the carpentershop. As a consequence no tools could be issued by the storeroom except through the carpentershop. We have an inspector who looks over the wrenches and sledges, and he condemns quite a few.

THE CHAIRMAN:—Now for a few minutes' talk on the medical examination of employes as brought up by Mr. Forster. A physically fit man is certainly a safer man; and the whole point dovetails with today's subject. —

EMPLOYEES' EXAMINATION IS IN WORKERS' INTEREST.

MR. M. W. TABER:—About three years ago the Packard Motor Car Company recognized the necessity for the physical examination of employes, because a number of unfit men were being drafted into the plant. After we had engaged a competent surgeon, and assigned him to this work, a number of objections were put forward by the new men we were hiring; so, to eliminate these complaints, we organized an employment bureau, and our management showed rare judgment in the selection of a man to head it. This man is thoroughly diplomatic; and, in his position of intermediary between the management and the men, insists on the employes' securing a square deal. One of the first points this man takes up with a workman is the necessity for a physical examination; he shows him that it is to the man's own interest to prevent the physically unfit coming into the works. We have had no trouble since this method was begun. Mr. Richards stated yesterday that men should overcome the tendency to become automatic, and that they should accordingly be taught to think. My opinion, however, is that the reverse is the case; the men should imbibe the safety habit so that it becomes automatic with them. One young lady kindergarten

teacher, to whom I suggested the commencing of some safety lessons among the children in her class, refused to do so, because "fear must not be taught to children." I think her attitude is entirely wrong. You can teach children safety without inculcating fear.

MR. H. E. AKERLY: Our local Y. M. C. A. suggested that we give a course to workmen in First Aid. We accordingly picked out about thirty men for this purpose, thinking that it would be a good thing for them, and that in some way they might be able to assist in the case of an accident in their vicinity. It was a matter of surprise and gratification to us to find that the men not only took an interest in the course itself, but that they carried the information so received into their offices. A demand arose for a second course; and this we gave to about forty ordinary workmen. These men have since disseminated health practice and treatment of minor injuries which they learned. The amazing point is that they took more interest in general health principles than in any other part of the work. So, through this, we have fomented a very favorable attitude on the part of the employes towards medical supervision. It is intended to continue these classes so that as many men as possible will participate in them. At the conclusion of each course the men have the option of taking the second class examination of the American Red Cross, which is given in co-operation with the Y. M. C. A. This examination is very simple; nevertheless it reaches basic facts; and my opinion is that the whole procedure is of great value, principally because the men will spread the gospel of attending to bodily welfare among their fellow-employes. It may interest you to know that a night-watchman who took this course was able on the second day to successfully operate a pulmotor and thus revive a man almost immediately. This was an excellent proof of the value of the course.

THE CHAIRMAN: I should now like Mr. Lee K. Frankel, of the Metropolitan Life Insurance Company, to speak. He has done a great deal of educational work along this line.

FIGHTING THE WHITE PLAGUE.

MR. LEE K. FRANKEL: I speak mainly from the point of view of the industrial life insurance companies which, in the past, have

"paid the piper" simply because a large proportion of death claims are due to accidents. You can therefore appreciate the interest of such companies in the safety movement. We are, however, interested in it for reasons other than those of accidents alone; and I think that the movement is merely in its inceptive stages, both as regards the prevention of accidents and the elimination of occupational disease. Take tuberculosis, for instance; this is fully recognized as an occupational disease. Over 18 per cent of our death claims are on persons who have succumbed to this trouble; and the worst of the matter is that the man who is dying from phthisis is the man who ought logically to be the most fit, because he is at an age where he ought to be actively employed. Over 45 per cent of our tuberculosis death claims are those of men between the ages of 24 and 30 years, the young men. These are dying, day after day, from a fell disease contracted in the industries in which they are engaged. Probably a few indications of what the insurance companies have done along the lines of education will be of interest. We are endeavoring to educate workmen either through literature or by a visiting nurse, so that they may know the hazards confronting them in their daily work. I was impressed by Mr. Smith's statement a short time ago that the proper place to begin this education was the home. It is equally to the interest of the wife to know the conditions under which her husband is employed; and when she clearly appreciates the hazards of his employment, you have a very vital factor at work in bringing home to him the necessity for care. If matters are gone about in the right way, you can approach the big mass of working men and women in this country and properly educate them in safety work. We have published a booklet entitled "The Health of the Worker." While we have not been specially interested in placing this in the hands of working men themselves, we have certainly been sincerely desirous of seeing that it reaches the women of the families. It tells of the physical conditions which should be found in the ideal factory, talks of safety devices and also takes up, from the workmen's point of view, the necessity for proper factory ventilation and sanitation. When a workman is educated to the conditions he *ought* to find, and which the employer *ought* to give him, then you have an intelligent employe who will not work under other conditions. I am thoroughly in accord with the medical examination of employes; in fact, in

our own company of 15,000 workers, we engage no one without such examination; and periodical re-examination, at least once annually, is now being introduced. But, as regards ordinary workmen, I call to mind that at a meeting of the National Association for the Study and Prevention of Tuberculosis held at Washington last fall, Mr. Gompers, head of the American Federation of Labor, expressed a vague fear that the re-examination of workmen—say, at yearly or two-yearly periods—would prove that some men were physically unfit, and that consequently they would lose their posts. For this reason I was glad to have Dr. Patterson's assurance yesterday that his industry had a pension-system under which employes continued in service even if found unfit. The history of the safety movement in Europe has clearly shown that unless you have a system of disability compensation of some kind, under which the unfit man is provided for, you are going to produce discontent among the great labor organizations in this country. I see, therefore, that any system of medical examination of employes must necessarily go hand in hand with some plan which will properly provide for the incompetent and unfit.

ARGUMENT AGAINST EMPLOYEES' EXAMINATION.

MR. EDWIN R. WRIGHT: I speak as an employe. We are opposed to physical examination of employes, because, under present conditions, such examination is absolutely wrong. The wages paid by employers are not for physically perfect men, but for the rank and file of workers. —If, therefore, physically perfect men are desired, employers must pay accordingly, and not take it from the employe. If the best class of workers is to be sifted out—those, for instance, who have not contracted tuberculosis, lead-poisoning or met with an accident—is it not fair that employers should pay for the superior efficiency of these men? But wages now are not based upon anything of the kind. It is true that in several occupations one may find men suffering from lead-poisoning. And now: what of the physical examiner? One of these gentlemen was in my office the other day, with the object of investigating lead-poisoning conditions in the printing trade. I said: "All right; but probably you had better examine me to see if I have lead-poisoning. If I can pass the test, it will give you some standing with the rest

of the men in my organization." Hereupon I was handed a list of the questions he was going to ask me; but some of them I declined to entertain, especially questions pertaining to my wife. Frankly, I cannot see how questions pertaining to my wife can have anything to do with the physical examination of a man going to work in a printing office. In my printing organization, we have a contract with the employer which permits us to go on strike if the laws of Illinois regarding sufficient ventilation are not enforced. Yet a good many employers do not live up to the law; and in three out of four shops in this city there are existent conditions which would warrant employes striking. Here in Illinois the State laws are lived up to along broad lines; but this is not so in the case of minor details. I frankly admit that a good many of the employers are living up to the ordinary safeguards and complying with the laws; but, while desiring to give the employer due credit for everything, I want some credit also given to the employe. Here in the Middle West the employer is producing more goods than are manufactured anywhere else in the world; and in Illinois we have got probably the best workmen in the world. Wages here are a little higher, hours shorter and conditions better. Still, however, we are working along the same old general lines of the average employe; and we are not going to submit to a physical examination in Illinois so long as we can prevent it—unless employers pay for the physically perfect man. When that is done, and some provision made to take care of cripples already created by employers, matters will be different. But in these days when a man meets with an accident in this State—unless conditions have changed within the past few years—he is, in four cases out of ten, discharged shortly after the mishap occurs, and is not taken back by his employer. In other words, he is thrown on the scrap-heap; and the same thing applies in nine cases out of ten if a man contracts an occupational disease. Such are present conditions. It is not possible to segregate the man who has been poisoned in the shops of John Smith and who has in consequence been refused employment in the plant of John Brown. What is going to become of that man? Occupational disease is much more rampant than any of you gentlemen imagine—there are thousands of cases of it. What are you going to do about it? I do not know; but I certainly object to these men being relegated to the scrap-heap and charity—unless,

when the man is perfect, employers pay him a wage so adequate that when he becomes imperfect through poisoning in the factory or through an accident he will have some chance to take care of himself.

MR. R. C. RICHARDS: Everyone here knows that a very small proportion of accidents and deaths is due to unsafe machines or unsafe places; and that a large proportion is due to "unsafe" men. It is to the interest of any workman to work with a "safe" man. No one adopting, or in favor of adopting, physical examination requires that an applicant for employment shall be a "perfect" man, simply because there are few physically perfect men. The object of the examination is more to secure men who have reasonable physical qualifications to perform their work in a safe manner. Well, then; what objection can any workman have to a plan which is destined to make his life and his limb safer than they would otherwise be had he to work with an "unsafe" man? If I mistake not, the Chicago & North Western was the first railroad in this country to adopt physical examination of its employees nineteen years ago. All that we require is that the men shall be physically qualified to perform the work allotted to them, so that the men engaged alongside them may be safe; and that the passengers and other people doing business with us shall be taken care of by safe men. It is obvious that a man must have reasonably good vision, reasonably good hearing and a clear perception. I feel sure that if you or any other body of men can demonstrate to the workmen that physical examination is in every way to their best interests, you certainly may count upon their support in this question of examination. During our nineteen years of physical examination, we have examined 99,512 men, of whom 12,548, or 12 per cent, were rejected. I think that this 12 per cent of rejections proves that the examinations are conducted on a reasonable basis. Concerning Mr. Wright's asservation that a large proportion of men are thrown out of employment because of incapacity; let the 65 or 75 men here today from the Chicago & North Western endeavor to remember if, during all their experience, they can recollect the case of one workman who was discharged because he was injured. Sometimes, of course, a man is hurt in such a manner that he cannot work with safety to himself, his fellows, his employers and

the public; but, in nearly every instance of this nature, some occupation is found for the unfortunate.

MR. A. T. MOREY: While it is good to know that although safety work had its inception in humanitarianism, it is also economic and makes for efficiency, there is no question that the mere fact of its being humanitarian compels us to take care of the injured men. In my own company, which employs about 3,000 men, the injured employe is shown every consideration; his position is saved for him. Should he have to relinquish work for a considerable time, thus necessitating that another man take his place, the temporary man is allowed to go when the injured man can once again resume duty. The compensation act endeavors to meet the situation at least in part; but the employer should show every possible consideration; and, if the compensation laws do not completely meet the case, then benefit associations should be instituted among the men, so that cases not covered by the compensation act may be provided for. It has not been my experience that injured workmen are uncared for. I now turn to a resolution I wish to make, interpolating that as our business session adjourned on Tuesday, any resolution adopted at this meeting is not an official action of the National Safety Council; but it is nevertheless quite proper that a resolution be taken expressing the sense of this meeting. Official action by the council is not possible this year; but I hope the agitation on the liquor question may be such that ere another year comes round we may present the point for official action.

RESOLUTION DEPRECATING USE OF DRINKS.

Whereas, it is recognized that the drinking of alcoholic stimulants is productive of a heavy percentage of accidents and of disease affecting the safety and efficiency of working men; therefore be it

Resolved, that it is the sense of this Round Table meeting at the Third Annual Congress of the National Safety Council that it places itself on record as being in favor of eliminating the use of intoxicants among the employes of the members of the National Safety Council.*

*(Editorial Note. At the conclusion of the Transportation and Public Service Session of the Third Annual Safety Congress on Thursday, October 15, 1914, it was unanimously agreed that the phrase "eliminating the use of intoxicants among the employes of the members of the National Safety Council" be altered to read "eliminating the use of intoxicants in the industries of the nation.")

I therefore move, Mr. Chairman, that the resolution be adopted.

DR. F. D. PATTERSON: I have the honor to second the resolution.

THE CHAIRMAN: You have heard the resolution proposed and seconded: Now for a formal vote. All in favor of adopting the resolution as the sentiment of our Round Table meeting will please respond with a rising vote. (All the audience thereupon rose.) I am therefore pleased to see that it is unanimous.

DR. LUCIAN W. CHANEY: Regarding the dovetailing of medical supervision and examination with the general safety movement, and the most appropriate manner of reaching the desired goal of such supervision and examination, I believe the objections raised by organized labor are thoroughly sound and valid until a process of education has been gone through by the experience of different companies able to adopt the plan and to supplement it by necessary safeguards. Every safety man soon realizes that he must go beyond the question of mere accident prevention, and take up points of housing and a number of sanitary features. Now, every concern with an eye to accident prevention must maintain some kind of medical work; and it is through the influence of such medical work already established and which must be taken up in every State having a compensation act that we are to reach the ultimate goal of general supervision. It must be gone about slowly; and the essential safeguards must be provided. In many establishments I have seen, the point of general attention to accidents has paved the way for provision of medical care. If you properly emphasize medical service, and appropriately encourage the physician in charge, results are bound to come.

THE CHAIRMAN: In closing this phase of the subject, I thank Mr. Wright for having brought forward the points he raised. This Council should feel the responsibility of preparing specifications for physical examination that will be just alike to employer and employe. I think we shall be glad to assume that responsibility. Now we shall hear from Mr. Price.

OVERCOMING RESISTANCE OF FOREMEN.

MR. C. W. PRICE: I desire to call forth discussion on certain points, which more than any others are taken up with me per-

sonally by safety men in Wisconsin. They say to me: "Now, I know about guards; I can find out about these from pictures and so forth; and I have witnessed so and so. But these are not my problems. What I want to know is *how to overcome the apathy of the foremen.*" For the sake of illustration, let us assume that the co-operation of the management has been secured—that is point number one. But it also involves the consideration of cases where the management has clearly recognized that the foremen were opposed to safety work. How can we overcome that deadlock in the initial days of a safety campaign? The second point is: what can be accomplished in instances where safety campaigns have been unfruitful because the men have found out that the management itself is not in sympathy with the movement? Well, our experience in Wisconsin proves that the most effective plan of overcoming such difficulties is to call a large "get-together" meeting attended by all the workmen and foremen, with the manager presiding. Then the officers of the company must give unqualified assurance of their faith in the safety movement, and especially in regard to what the company proposes to do. Then word must go down the line so that every foreman will know that from that time forward safety is an integral part of the ordinary business routine, and that they will be expected to do their part. Matters must be put before the workmen with enthusiasm; there must be no "ifs" or "buts" in the equation; and this entire "psychology of earnestness" will have its effect. I well remember asking Mr. Sam Hale, who was general manager for the Wisconsin Steel Company, how he reduced accidents 50 per cent the first year. His response was simple and to the point. "Price," he said, "I made a noise." And, mark you, that noise reached down to the humblest employe in the works.

MR. ALEXANDER SHANE: On the general question of educating the men to prevent accidents—which, to my mind, would be better termed "How to *interest* workmen in how to reduce accidents"—we are carrying on a campaign among the men whose work is dangerous, so that they may eliminate casualties both as regards themselves and their fellows. We organize the men in the most democratic manner, allow them to elect their president and secretary, to conduct their meetings and to discuss and exchange ideas

in regard to physical conditions and bad practices. By these methods we are succeeding beyond our most sanguine expectations in the interesting of the men in this work, and the obtaining of results. At all times the attitude of our organization towards these matters is purely advisory. We invite suggestions and recommendations from the men as to physical conditions, work practices and conditions which may have become a menace. These recommendations are carefully analyzed by us; so are the accident reports; and all our organizations are informed how accidents have occurred and in what manner they could have been avoided. This procedure engenders interest and the men themselves think out ways and means whereby casualties could have been prevented. We even go so far as to construct conditions exactly similar to those where accidents have happened; and, after assembling the men in classes of from 100 to 200, demonstrate to them just how mishaps took place. Then the men tell us what *they* would have done to obviate the happenings. We also issue monthly bulletins reciting these facts, in addition to daily or weekly shop bulletins. Our experience has proved that the vital point is that accidents happen, not because the men are unaware of dangers, *but simply because they are not impressed by the importance of safety work.* The importance of accident prevention must accordingly be made a *dominant* part of the men's nature; they must learn to consciously control every action.

MR. R. J. WETZEL: I think that probably the only effective way to approach and interest the small manufacturer in safety work is through the liability insurance companies. Our experience is that the large industrial concern almost invariably complies with our recommendations; but the small fry often scoff at our suggestions. Many, I take it, do this through sheer ignorance. It is therefore necessary for us to place safety work in its true light before the small employers, and eliminate from the minds of some of them the ludicrous idea that the liability insurance company secures a commission from the manufacturer of such and such a guard which it has recommended.

MR. S. F. SHATTUCK: If there is one feature of our own safety work in which we have had success, it is that of delegating the lead almost entirely to our workmen's committees. We have re-

ceived from 800 to 900 recommendations within the year, not one of which was unreasonable. We place entire confidence in our two committees, changing them monthly, and while as yet results have not been strikingly perceptible as regards accidents themselves, we have considerably reduced the number of days lost on account of these mishaps.

MR. L. D. BURLINGAME: In educating our employes in Accident prevention, we operate through our workmen's committees; these committees forming safety inspectors who are in close touch with the men themselves. In this manner we have established close relationship with our employes, and are obtaining their suggestions and influence in the direction of safety. The workmen's interest has been fanned through the posting of notices each month telling of accidents which have happened and giving the rating of each department in proportion to the other departments. To put all these departments on an equitable basis, we have adopted a handicap system, so that the results of each appear in true perspective as regards its peculiar hazard. We have also issued a booklet entitled "Health and Safety," copies of which have been placed with the National Safety Council for distribution among its members. I was glad to hear stress laid on the importance of the "home influence" on the safety of workmen; and the booklet mentioned indicates on its first page that it is for the benefit of the man's family as well as his own.

THE CHAIRMAN: I now ask Mr. J. C. Smith, of the Inland Steel Company, to tell us something of the bulletin board work his company is doing.

SAFETY BULLETIN SYSTEM.

MR. J. C. SMITH: Three and a half years ago the Inland Steel Company began safety work. The first step was the provision of safeguards; and any safety inspector will find that such safeguarding is not a matter of any determined length of time, but that it is a continual process. However, in the last equation, practically every accident is a preventable one. Towards securing co-operation of the workmen, we provided rule books printed in seven languages. On opening the cover of this book, there appears a drawing of the company's safety service medal. This medal is given for six months' service without lost time through accidents,

without loss by accident to anyone else and for successfully passing an examination on the rules. Prior to commencing these medal awards, we found that a great many men would throw away their rule books unread. As a means of rendering the rule book more interesting, we are issuing monthly bulletins, 7 by 5 inches, having pictures illustrating the rules. The size of these pictures will fit the rule book. To date, we have collected about 125 cuts which will be used in illustrating the next edition of the rule book. I maintain that an illustrated rule book is the only type which will secure the best results; and I think everyone will agree with me that pictures are the best means of reaching the men. There is a large safety sign at the entrance to the plant; and warning and educational signs are scattered throughout the works. Our bulletin boards are about 30 by 36 inches and framed in bright enamel, one being placed in each department. The material they contain is changed weekly. The second page of our monthly bulletins shows the score card, with the percentages of the various departments. In the working out of this score card, if a department had, for instance, a percentage of 2.27 for last year, this percentage is figured in the ratio of the men employed to the number of accidents, which include all cases causing a loss of more than one day. If, then, a department gets through without any accident, it will show a gain of 2.27. This is our bogey system. Every month we give watches for safety suggestions; and since we began to distribute these we have received more suggestions from the men than we have from the safety committee. In our safety committees we now have five divisions in fifteen departments, one man from each department. They meet in my office; and each month we go over all the recommendations and make trips around the plant. The men serve six months on the committees; and as one man changes every two months, this gives opportunity for needed variety, and at the same time maintains experienced men on the committees. So far as concerns the securing of proper safeguards for machinery, we have a clause attached to all our machinery order forms stipulating that the manufacturer shall provide machines safely equipped to comply with our rule book and the Illinois State laws. Moreover, in the case of contractors working in our plants, we have a clause which makes them responsible for all damages. Although we have tried a system of medical examination, we have decided to discon-

tinue it, because the men objected to the possible loss of their positions; and we have let the matter rest here until some way is found to take care of certain men so that we shall not require to reject them. The result of our safety campaign has been a reduction of 55 per cent in accidents during the last three and a half years.

MR. F. H. GRAPER: In our plant we have attained very satisfactory results through our "Cleaning Committee," which makes regular and thorough inspections of the works.

THE CHAIRMAN: Mr. J. B. Ayres will now tell us what has been accomplished through his company's bonus system.

BONUSES FOR FOREMEN.

MR. J. B. AYRES: Two years ago our company instituted the practice of giving the foremen a monetary reward for the prevention of injuries. I use the term "injuries" advisedly, for the reason that while "accidents" are unforeseen, "injuries" are preventable. The result has been that during the first year's use of the plan we had an elimination of 60 per cent of many of the injuries; and at the rate we are going along this year, based on the figures of the first eight months, it will average 56 per cent less than the preceding twelve months. I hold that this bonus system is a powerful lever in making the foremen apply themselves more diligently and with intenser interest to the prevention of injuries.

MR. C. W. PRICE: Mr. Ayres, I have heard objections urged against the bonus plan many times, on the ground that putting accident prevention on a money basis robs the safety movement of its spontaneous spirit and makes it mercenary.

MR. J. B. AYRES: We have not found it so; quite the contrary, in fact. The monetary consideration awakens keen interest; the men do all they can to help the foreman get his bonus; and those foremen who fail to participate in the rewards have not manifested any antagonism against the system, but rather a keen determination to secure their share next year.

MR. J. M. WOLTZ: Along physical examination lines—we were unfortunate enough at the end of 1913 to find some cases of trachoma at our works. Dr. Schereschewsky examined 6,200 of our men, and discovered 121 instances of trachoma or suspicious

trachoma, a number in excess of what we had anticipated. The doctor, in his report to the Public Health Service, outlined certain conditions as he found them, and made some recommendations. I bring out these facts to show that medical examination in a plant is for the good of the men themselves. Trachoma, if untreated, results in ultimate blindness. It calls for months of continual treatment; and almost invariably there is a resultant scar tissue that leaves a far from perfect condition of sight. The doctor, in his investigation, showed that both among our American and foreign employes the malady was largely caused by conditions in the homes. We had to establish a hospital that cost us thousands of dollars; we put the trachoma sufferers in quarantine, fed them and gave them every care and medical treatment. It was even necessary for us to give aid to school children and to one school teacher. In all, we operated upon 52 cases. This question of trachoma is very important to all of us. In the city of Cleveland I am reliably informed that there are 1,000 cases of trachoma; but I believe that there is not a single manufacturing concern there which is taking any steps to eradicate this disease among its employes.

MR. R. C. RICHARDS: One comment on Mr. Price's point. I cannot imagine any better way to maintain interest than to have employers send delegates to the National Safety Council congresses; for in this way the men will get the broad view of safety, not the local one; and everyone of them will go home carrying "a message to Garcia."

MR. T. H. MCKENNEY:—At the South Works of the Illinois Steel Company, where we classify all our accidents, we call a meeting of ninety men from our committees once a month for the purpose of considering accidents of the month previous. These men, with the supervisor of safety in attendance, hear the classification of the accidents as made by the various safety inspectors. Last month sixty-two such accidents were announced; but the men saw fit to alter only two of the classifications. We have a lecture hall in the central part of the plant, with a moving picture machine; and we invite men from other plants to come and address our men. This we find highly beneficial. In every way we endeavor to let the men be aware of what is happening, so that they may feel we are with them.

MR. GEORGE K. GIBSON: In most towns I think valuable opportunity is wasted in not bringing the safety movement before the school children and thus carrying the reflex and indirect effect of the movement back to the homes through the children. In Grand Rapids we took the safety movement into the schools, and sent the little folks home with a message.

MR. G. L. WRIGHT: On the Chicago, St. Paul, Minneapolis & Omaha Railway, where I am chairman of the central safety committee, we have about 7,500 employes. I keep a card system of all men who are injured on the road. Suppose that John Smith is injured today. I write calling his attention to the injury, asking him if it could not have been avoided by his using just a little more care, or by being just a little more thoughtful; and we find excellent results come from this plan. The safety movement on our railway is about eighteen months old. The first nine months we reduced the deaths of employes 55 per cent. This, however, was not due to efforts of the central safety committee, but to the activities of the men on the firing line. These are the men who have taken hold of the movement; although, when it was first started, there were many who skeptically said: "What have the officials got up their sleeve now?" Some of the men who were most obstinately opposed to the movement were placed by us on the safety committee; and we ultimately had an awful time to get them off the committee. Mr. E. R. Wright referred to workmen being discharged after injury. Well, I have been with the Omaha Railway about eighteen years and I have still to come across the first man on the system who was not given employment after being incapacitated or injured. I have still to see the first man who was not taken care of—unless, and properly so, he was dismissed for violation of some rule. I certainly think that when a man will violate a rule, and injure some passenger or a fellow-employee, he should be discharged.

THE CHAIRMAN: Won't someone connected with a small plant, and who wishes to ask questions, now take the floor?

MR. C. W. PRICE: At last year's Congress we found that some of the best points were brought out by men saying: "I know nothing of safety. My company is just commencing the work. We

are here to secure information." Therefore, with Mr. Palmer, I desire that someone from a concern to whom safety work is new should speak.

MR. HOUSTON GADDIS: I represent a company which is just starting on the work. One of our men was recently injured in the eye by a splinter of steel; but, when the particle was successfully removed, it turned out that this eye had been sightless for seven years previous, owing to some organic defect. Well, five years ago none of us thought of medical examination. A reasonably safe employe for us to retain would probably have two good eyes; but it so happens that this man is a good workman. We are consequently retaining him; and intend continuing to do so. What would be Mr. Frankel's opinion of how to handle this case? I desire to know, because we have been told that our retention of this particular employe is a dangerous procedure.

MR. J. G. NOACK (here interpolated): I desire to keep the men normal at all times. When you censure a man in the presence of his fellows you jolt him out of the normal. He is therefore apt to do things not only to himself, but to others that will tend to throw the entire plant out of harmony.

MR. LEE K. FRANKEL: I think that Mr. Gaddis' company is doing the correct thing.

AN INTERESTING EXPERIENCE.

MR. E. T. WHITE: Many matters I have heard this morning are quite new to me. While safety work at our plant is about a year old, there is still one point I have not heard discussed yet, and that is the doing of something for the men in a helpful way subsequent to their being injured. We follow up such injured cases subsequent to the monthly meetings of our safety department, which are attended by the employment agents from the various plants. At all hazards—and this is the point I wish to emphasize—we keep the "shyster lawyer" away from the men. Last spring a man had his hands hurt by a two-wheeled truck; and afterwards a lawyer of the type I have mentioned told him, "You must not use your hands. Don't do anything now. I shall get some money for you." That lawyer evidently hadn't heard of the compensation law, and I believe there are many of his kidney

who have not done so. The result was that this lawyer kept the poor fellow from work for three months when the company was willing to pay him his wages.

MR. H. B. ADAMS: Although safety work is new to me, I have had at least a little experience. Over a year ago I talked to our trainmen as to running their trains for the prevention of accidents. We had meetings on our three divisions about once a month. While I found thereafter that boarding and alighting accidents were being considerably reduced, it turned out that such accidents of these types as were occurring were wholly due to carelessness of the injured persons themselves. Thereupon, resolving that these people ought to be educated, I went into the schools at Aurora and Elgin. I told the children that they must not cross the tracks without looking both ways, that they must not play in the streets and must board cars using the right hand, and alight using the left. So far as our men are concerned, I give them heart-to-heart talks by getting right down on their level, and they are convinced.

MR. E. P. GLEASON: We have this problem in our paper mills. All year round, and especially in fall and winter, we employ a large number of transient foreign laborers to unload the great quantities of logs that come from the lumber camps. I should like some advice on how best to handle this foreign help.

MR. T. J. HOLLAND: To properly instruct your "green hands," simply put a man with them who knows first essentials, one who can say: "This is the way to unload the car."

KEEPING CHILDREN FROM DANGEROUS PLACES.

MR. J. J. SHANESY: A head of a department cannot conduct it successfully so far as safety is concerned unless he be imbued with the safety spirit. In fact, he should have the qualifications of a safety man just as much as he has the qualifications for the particular work he is engaged in. As regards instruction of school children, at the point where I am at work we are unfortunately located, in that streets run parallel to our tracks. School children have been in the habit of leaving the streets and walking through the yards to see what is going on. On taking the matter up with the school superintendent and his assistants, I was assured of their co-operation. They enlisted the services of the truant officer and

some of the police, and now we have very few children going through the yards. I believe that a general stirring-up of safety matters in the schools and the rousing of teachers' interest would help us greatly. The great general point is to permeate ourselves with the safety spirit and endeavor to impress it on everyone else.

At this juncture a question was asked regarding brakes on overhead cranes; but as it would probably have involved too lengthy a discussion, the chairman asked the questioner to write him on the point. Several of those present, including the chairman, then talked on the annealing and inspection of chains, which brought out the following opinion. These chains may be discarded for the use of wire rope; although wire rope is not appropriate for lifts with square-shaped edges. Moreover, in dealing with hot material, a good many people think that this cannot be appropriately handled by cables; chains must be used and these must be properly annealed.

MR. L. A. PHELPS: In some of our reverse work we have found it satisfactory to use a combination of wire cable and chains; using a chain where cable-chafing would otherwise occur, and in this manner protecting the cable. You thus get the benefit of the elasticity of the cable, which protects the chain to that extent. We inspect chains every six months and anneal them each time. However, are chains benefited by annealing at periods so frequent as six months? Some firms say no.

MR. W. E. FIRTH: A steel chain should be annealed, but not an iron one.

MR. M. E. ARKILLS: After running a series of over 100 tests, our experience is that iron chains should be annealed once in four months. But such operations must be carefully supervised. The chain must be brought slowly to a temperature of 1,500 to 1,550 deg. F. and allowed to remain at that temperature for about 30 minutes to allow of complete saturation. It is then cooled off slowly. The result is that the original condition of the metal is very nearly attained.

MR. C. W. PRICE: Before Mr. Arkills leaves the platform, I ask him what in his opinion has been the chief factor in the Pullman company's remarkable accident reduction?

MR. M. E. ARKILLS: In my opinion this has been primarily due to results secured through our bulletin boards. These boards have a section at the bottom with two compartments. The right-hand compartment (as one faces the board) has an open door where suggestion cards are kept. On that card any suggestion may be written and the card then placed behind the locked door in the left-hand compartment. These cards are withdrawn only by myself or my assistants and then taken to the office. The men know they are free to make any suggestion whatever, even if such should be against their own foremen; and as the cards are not common property, the foreman would never know who made the suggestion, nor what it was, unless it should be something that he could correct. But even in the latter case he might never know who put forward the recommendation. If a suggestion is good, it is adopted; and we write the man a letter thanking him for it. I believe this plan is one of the primary essentials.

The meeting then adjourned after a unanimous vote of thanks to Mr. L. R. Palmer for his services as chairman.

TRANSPORTATION AND PUBLIC SERVICE SESSION.

Tuesday, October 15, 1914, 2:00 p. m. to 3:30 p. m.

The session was called to order at 2 o'clock by President Campbell.

THE PRESIDENT: The meeting this afternoon comprises two sessions: The first session is the Transportation and Public Service Session, and the second the Manufacturers' Session.

It has been our extreme good fortune to secure for the Chairman of the Transportation and Public Service Session a gentleman who is probably as well able to introduce the subject as any one in this country, one who represents wide and varied interests that are touching the public at many and different points, and a man whose intelligence and capacity will make anything that he has to say to us well worth listening to. I take pleasure in introducing the Chairman of the Transportation and Public Service Session to you, in the person of Mr. Martin J. Insull, the vice-president of the Middle West Utilities Company of Chicago. (Applause.)

(Mr. Insull took the chair.)

THE CHAIRMAN: Mr. Campbell and gentlemen, I am afraid that I cannot live up to that very flattering introduction which Mr. Campbell gave me. I have been asked to address you on the subject, "Safety as a Means of Bettering the Relations Between the Public and Public Service Corporations."

We have already reached the time when, with few exceptions, the public service corporations have established better relations with the public than existed some years ago. At that time neither thoroughly appreciated their relation to the other, and both seemingly failed to recognize that their interests were largely mutual. It is, therefore, not the question of Safety bettering their relations but rather of improving the better relations already existing.

A public service corporation, to be successful, must necessarily have for its field of operation one or more progressive communities. On the other hand, no community can progress to any considerable extent without it is adequately supplied with the different classes

of service furnished by the various public service corporations. The appreciation of both during the past few years of the interdependence on each other has undoubtedly led to the marked improvement in their relations. The successful public service executive of today is a man of broad vision. He is in touch with the best civic requirements of the communities he serves and is ever ready to help toward that development which is equally necessary for their success as well as for that of the corporation which he represents. It is not unusual to find his company the prime factor in any movement—industrial or social—organized for the betterment of present conditions. And so year by year the public service corporations and the public have been drawn closer and closer together by ties of mutual interest, having for their final object their individual and mutual advancement. Unfortunately, however, there is one cause of discussion that, during the last decade, has increased rather than decreased, and which has been fostered by the greed of men who in doing so tarnished the otherwise brilliant reputation of two learned professions. I refer to the great and still growing tendency to seek damages on account of injuries which, if not magnified by self-appointed lawyers, and aggravated by their medical partners, would ordinarily be considered of no moment. I am in no sense referring to these unfortunate accidents in which the public are really and seriously injured beyond any possible doubt, but to that class of manufactured injury for which money is the only, but, at the same time, the immediate remedy. If this condition could be removed, or even materially modified, it would certainly be a long step in still furthering the pleasant relations between the public and public service corporations. The Safety Movement, by eliminating the possible causes of accidents, the education of employes to prevent, and of the public to avoid accidents, must materially aid in the partial elimination of the growing evil. A better understanding by the general public of the efforts of public service corporations for the safety of their life and limb would have a great moral effect in helping to stamp out, both in their inception as well as their disposition before a jury, those unreasonable claims which are at the best based only on a shadow of facts. This would not only be of immeasurable service to the corporation, but also to that large proportion of the honest public whose only accident claims against the cor-

porations are those made when real injuries are suffered. It is, however, not an easy task. The public, as a whole, largely due to ignorance, are not as interested or as helpful as they should be in the efforts taken by corporations for their safety. If anything, they resent them as an infringement of their personal rights rather than to welcome them as a protection for their life and limb. Many a time we have seen a passenger on a street car objecting to the efforts of a careful conductor to prevent him or her from taking the chance of being injured by leaving the car before it stops, or by stepping down in front of a passing vehicle. This practice of getting on or off moving cars was the cause of such a large percentage of street car accidents that in order to protect the public against their own carelessness it became necessary to construct cars with doors and steps so controlled by the motorman or conductor as to make it impossible to board or alight therefrom while the car was in motion. It is an everyday occurrence to see people, and probably some of us here have at times been guilty of, walking across railroad tracks in front of an approaching or standing train, around lowered gates provided by the railroad company for our protection. The number of people killed as a result of trespassing on railroad rights-of-way placarded as dangerous and properly fenced in have been so numerous that in some states it has been made a misdemeanor, punishable by fine and imprisonment. Notwithstanding all that has been said and written about the dangers of touching fallen wires, every now and then we read in the pages of the daily press of people being electrocuted as a result of so doing. Rules and regulations, made by the public service corporations for the protection of the public, and for that of their employes, are, in spite of close supervision, constantly broken, with their resultant list of accident reports daily coming in to the Safety or Claim Department. The extravagant disregard for the value of their Safety is shown every day by the public on our city streets and in public places. During the automobile season our papers are constantly reporting terrible accidents, invariably caused by suicidal carelessness.

And so we might go on ad infinitum recounting preventable accidents for which the public itself is entirely responsible. It is, therefore, essential that from an economic, as well as a humanitarian point of view, the public service corporations should deeply

interest themselves as they are doing in the great Safety Movement that has in a remarkably short space of time spread itself all over this country.

To avoid the unjust claimant from taking advantage of them, to protect the honest public against its own foolhardiness, they cannot afford, within the limits of their financial ability, to leave anything undone that will add to the safety of their service, their patrons, and their employes. They cannot develop any well defined Safety Movement amongst their employes and secure their interests without it being reflected in a more considerate and courteous treatment of their patrons. This, with the reputation of Safety of service, which such a movement must eventually develop, will, through the number of friends it gains for the corporation, tend to further improve its relation with the public in general.

How can the safety service be secured? Certainly the use of well tried Safety devices for the protection of employes and patrons are necessary as well as the enforcement of proper safety rules and regulations. These, however, from the few instances mentioned and the experience of public service officials, as well as executives in other branches of industry who have studied accident prevention, will not insure Safety. What is needed above all is the co-operation of the individual whose Safety you are endeavoring to conserve. This can be obtained only by education along safety lines. The education of the employe is comparatively simple when once you have aroused his interest, and experience proves that this is not a difficult task. In every man there lies dormant not only the spirit of self-preservation, but also the more unselfish and higher spirit of the preservation of his fellows. The more difficult problem is the education of the general public whom the public service corporations are anxious to protect. Above all, however, it is necessary to educate them to avoid accidents in general, so that they will appreciate that the safety rules of any service or industry are made solely for the protection and not with any idea of restricting their personal rights. There is something mysterious in the safety movement; it is a simple common-sense proposition dealing with the particular form of conservation of the human body both from a purely humanitarian as well as an economic motive. The more thought and study one gives to accident prevention the more one is impressed with its simplicity and the necessity of education along

purely general common sense lines, so that each individual will learn to use necessary precautions in preventing accidents to his or her own body or that of others. Education along the lines of accident prevention should start in the kindergarten and be carried through the high school and the college. In the promotion of this general education accident prevention work I know of no greater factor in this country today than the National Council for Industrial Safety under whose auspices this gathering of representative men from all classes of industry has been brought together by their common desire to prevent accidents. If you study the accidents occurring in any branch of public service or industry, you will find a large percentage of them are common to all. They are the everyday ordinary kind of accidents that might happen anywhere, due to lack of caution and thought. The accidents chargeable to any public service or industry resulting from the hazards of the particular business are small in comparison. Some statistics recently gathered together of accidents in the electric lighting industry showed that less than 10 per cent were really chargeable to the hazards of this, if anything, hazardous business. Even most of these could have been avoided by ordinary care and thought. We are all too reckless of our lives and limbs, and instead of thinking Safety First, are reliable to think of it last and when too late. We are taught from childhood to build our bodies up by exercise, but the lessons of taking care of them by caution seems to have been overlooked.

I feel I have good reason to make the pleas for accident prevention along general lines because until this is accomplished how can the public service corporations, or the industries, expect accident prevention along special lines? While we, in our particular lines of industry, are endeavoring to educate the public in the prevention of accidents incident to that industry, we must assist in every way we can in their education along the more general lines of accident prevention. The public service corporations can, through their necessary closer contact with the public, do a great deal in this campaign of education. It will undoubtedly take the public some time to appreciate that the work is being carried on for their benefit. When they do, however, we shall, I am sure, find them ready and willing to assist in any way they can, and working together the public and the public service corporations, in a Safety Movement

for the common good, must result in a closer and, if possible, a more friendly relationship than ever exists today.

THE CHAIRMAN: Our first address this afternoon will be on the subject of "The Safety Problems of the Railroads," by Mr. W. B. Spaulding, Chairman of the Central Safety Committee, St. Louis & San Francisco Railroad, St. Louis, Mo.

Mr. Spaulding is a member of the National Council and a member of the Accident Statistics Committee. He is one of the pioneers in railroad safety work, and has been an enthusiastic and consistent believer in the accident prevention cause, as evidenced by the splendid reduction in casualties under his direction of the Accident Prevention Department of the St. Louis & San Francisco Railroad.

MR. W. B. SPAULDING: Mr. Chairman, Ladies and Gentlemen: Since the initial construction of railroads their safe operation has been a subject of paramount concern to those upon whom devolved the manifold responsibilities of their management.

This was sought to be attained by the promulgation and enforcement of enlightened rules dictated by the combined knowledge and experience of all persons upon whom this responsibility rested.

The great success that has attended their efforts to secure safety in the transportation of passengers is manifest in the fact that during the fiscal year ending June 30, 1913 (the latest figures published) there were in round numbers one thousand million passengers transported by the railroads of this country of which but 403 were killed, and but 181 of these were killed in train accidents. The rest, or 222, were killed by other causes, such as getting on and off trains; struck at stations and in other like ways for which occurrences the victims themselves were probably alone responsible. The figures given include passengers carried on freight trains.

Accident insurance companies have long recognized the very great degree of immunity of passengers from death and injury in consequence of the provisions railroads have made for their safety, and evidence their confidence in the effectiveness of these provisions by giving passengers, for the same price, double the indemnity against injury they may sustain while traveling on a railroad as they can obtain against injuries liable to occur in their own homes.

While railroads have been able by vast expenditures of money

on roadway and equipment and for safety devices; by educating trainmen in the knowledge of rules governing the movement of trains and being able, because of the necessity of keeping constant supervision over train movements, to secure, to a large degree, obedience to those rules to thus safeguard their passengers, it has not been possible for them to secure similar observance of rules promulgated for the protection of their employes generally from physical injury and death, and whose retention in the service is of vital concern to them.

The inadequacy of rules and discipline to stop the annually increasing number of employe injury cases became apparent several years ago. A study of the situation revealed the reason to be that the employes, not the company or its officers, controlled the majority of the causes of injury sustained by workmen, and, therefore, the logical thing to do was to interest the workmen themselves in the removal of all causes of injury possible before such injury occurred, not afterwards. Not as a matter of obeying rules (which it seems is innate human nature to resent), but because of the benefit that would come to them and those dependent upon them by so doing.

This thought originated in the mind of Mr. R. C. Richards, a veteran investigator of accident cases, and was formulated into a working plan by him and tried out on the Chicago and North Western Railroad. Its success was immediate and so great that the plan was adopted and is now in successful operation on seventy-four of the great railroad systems of this country and Canada owning two hundred thousand of the two hundred and forty thousand miles of railroad in these two countries. This employe safety movement has been in operation on these seventy-four railroads varying lengths of time. On some its inauguration is comparatively recent. I am in possession of data from three of the roads on which the movement has been longest in vogue, as well as some figures from seven other important railroads which I think will definitely indicate what can be accomplished by an injury prevention movement managed by the employes themselves.

On three railroads, with a mileage of 19,000 miles and 100,000 employes an average of three years' experience in "Safety First" work, as compared with the same period prior to the inauguration of the employe injury prevention movement, there was a de-

crease of 457 fatal accidents, or 21 per cent, and a decrease of 14,843 non-fatal accidents, or 23 per cent.

On seven other railroads with a mileage of about 30,000 miles, during the first six months of the present year as compared with the same six months of last year, there were reductions made in casualties as follows: Fatal accidents, decrease 205, or 32 per cent; non-fatal accidents, 4,326, or 21 per cent.

The most difficult problems of railroad safety work arise from accidents, the causes of which are not within the control of the railroad company. It is this class of accidents that supplies by far the greater number of cases to the casualty list. These accidents may be divided into two classes:

- (a) To the public.
- (b) To the employees.

In respect to accidents which occur to the public by far the most numerous are to those persons who use railroad tracks as walkways and those who steal rides on trains, including boys who hop on and off moving trains as a pastime. Notwithstanding the appalling loss of life and limb from these causes annually, the general public, which is profoundly shocked and indignant when life is lost or serious injury occurs in a train wreck; the sinking of a ship at sea, or in a highway crossing accident, takes no more heed of it than if as many flies had been destroyed, yet it is the general public alone that has the power to put a stop to this great loss in the productive power of state and nation and save the victims to lives of usefulness and contentment. The warning signs the railroads erect and maintain at great expense are a useless thing in checking track walking. This is all the railroads can do in that direction. As a part of the movement for injury prevention something has been accomplished; just how much it is not yet possible to say in figures, in persuading boys to abandon their train hopping and turntable pastimes by talks to them at their schools, oftentimes illustrated by stereopticon views; the giving of safety buttons as prizes for learning and reciting some pertinent "Nevers"; by constructing swimming pools for their use on condition they will keep away from the cars and not play on railroad premises; by reporting them to their parents and securing the aid of town officers. I know of several towns where the employment of some of these

methods resulted in absolutely stopping these dangerous pastimes by the boys. I thoroughly believe that all that is necessary to keep a boy from indulging in dangerous sports is to provide him with safe and attractive ones in which he can expend the excess energy of his youth. This, however, is a duty to the boy that should be performed by his parents or by the community in which he lives. Railroads should be relieved of this task.

A second difficult public safety problem is the ever-increasing number of persons who, while riding in automobiles, are struck on highway crossings by rapidly moving trains. As there is 50 feet clear space on each side of all railroad tracks, assuring a clear view of an approaching train, if one will look, and as an automobile can be stopped in ten feet even when moving at high speed, there seems no excuse for such occurrences except the spirit of chance-taking automobile driving seems to inspire in many persons.

In respect to accidents that occur to employes, I am firmly of the opinion that the most difficult problem in railroad safety work is to arouse a genuine, active, heartfelt interest in the foreman in safety work (I intend that the word "foreman" shall include every man, whatever his title, who has immediate authority over and the direction of other men in their work)—an interest that is based on his own mental conviction that the prevention of injury of each individual workman will increase the efficiency and production of all, lessen the cost of production and bring personal credit and promotion for himself, and therefore of the first importance to him if he desires advancement; a conviction that when he has once secured a satisfactory and competent force of men that the loss of any one of them is a loss that affects him personally and detrimentally; a conviction that will cause him to give his workmen the same supervision and care to guard them against injury that he would instinctively give to a very valuable animal or a delicate and expensive machine he might own, and for the very same reason, i. e., because it is the sensible thing to do. A foreman interested in safety work because he had the intelligence to perceive its resultant benefits made the statement to me that "foremen would not help safety." The foreman who made this statement was an exception to it, and I knew personally of several other exceptions, yet I also feel equally certain that as a general statement it was a true one. This statement did not mean that foremen generally were indiffer-

ent to the safety of their men and would not regret the injury of any of them, but it did mean that the average foreman's first concern was production—the accomplishment of the work with a despatch and at a cost that would reflect credit on him, and as the ideas underlying the movement for greater safety for workmen conflicted with notions and methods of doing work to which foremen generally had long been accustomed they would be opposed to a change which, though it would eliminate risks, would, in their judgment, retard the work and cause some loss of time to the men—in a word, that risks known to foremen generally are regarded as incident to the work and usually escaped; that injuries were to be regretted after their occurrence, not before. Unfortunately, it is believed by many foremen that the man who will not take chances lacks spirit, while it should be the best of evidence that the man has good sense.

Some years ago a single track car line was built by a capitalist from the outskirts of St. Louis to a suburban town with turnouts at convenient points along the line for the passing of cars going in opposite directions. On Sundays the line did a rushing business, carrying the city crowds to picnic and other outing grounds. The cars had a time schedule and designated turnouts for passing. There was an understanding, however, among the motormen that if a car was not at the meeting point on time then, in order to keep traffic moving and eliminate delay, the other motorman should attempt to get to the next turnout before the delayed car had passed there. In undertaking a movement of this kind a collision of two cars occurred while going at top speed. It required several hours to extricate the more than half a hundred killed and injured passengers from the debris. The owner of the line was mercilessly excoriated and denounced by the newspapers. When asked by a reporter why his motorman did not remain at the scheduled meeting point until the delayed car arrived he replied "that he would not give much for a motorman who would not try to steal a switch." I am of the opinion that for permanently successful injury prevention among employes and still greater safety for passengers the "boss" with "switch stealing ideas" should have the first attention of the safety evangelists.

The code of safety rules promulgated by railroads give evidence that their general officers realize that a well organized and trained

force of employees is essential in order that the company may serve the public efficiently and prosper itself; that the frequent occurrence of injury among their force of employees is a serious impairment of both the company's ability to render good service and its chance to prosper. If those rules were obeyed by all employees injury cases would be kept down to the minimum and a "Safety First" organization would not be required, but these rules are too frequently disregarded, and the passing years have demonstrated there is no practical way to get them obeyed—as rules. An unpopular rule, just like an unpopular law, is not enforced. Both laws and rules must have the vitalizing force of the majority sentiment of the persons whom they affect behind them to make them effective. It is little use for a special missionary to travel around among thousands of employees preaching safety and attempting to convince them the company means what it says in a rule declaring:

"The company does not require nor expect its employees to incur any risks from which, by the exercise of their judgment and by personal care, they can protect themselves, but enjoins upon them and demands that they shall take the time and use the means necessary to, in all cases, do their duty in safety,"

if the "bosses" under whom these men work are not in sympathy with that rule and ignore it because they do not appreciate its importance and value to their company and themselves.

A great enthusiasm for the prevention of work accidents may be aroused by large safety meetings of workmen; by the circulation of safety literature among them; by the efforts of their associates in work who are members of safety committees and in other like ways, and gratifying decreases in injury cases immediately result from the activity of workmen so aroused, but unless the immediate "bosses" of these men have been aroused at the same time and become possessed of a conviction that will stick, the good results of all this effort will not long continue. A foreman's "wet blanket" will speedily extinguish all the fire in any enthusiasm thus aroused and things will continue as before. The cook book recipe says "First get your rabbit" and paraphrasing I say first get your foremen. Make them thorough converts to the cause of greater safety by convincing them that their own personal interests and the real

interests of their superiors and their company are best served by the absolute prevention of injury among the workmen under their charge. One of the chief tests of the efficiency and competency of a superintendent and every junior official should be the freedom of his men from injury and it should be understood that the casualty record of every such official would be given serious consideration whenever promotions were to be made. Having thus captured the "boss" the rest of the problem is of comparatively easy solution.

It is agreed that supervision and education is the straight road to greater safety—the true solution of the injury prevention problem.

The best supervisor is the foreman, because he is always on the ground and for the same reason, assuming that proper regard has been had as to his competency when selected, he is the best educator, for the knowledge he imparts will be practical, of present application and permanent value, and his situation is such that he may not only know that his instructions are understood, but he can see that they are followed. The safety missionary, the safety committees, safety literature and prizes will be distinct and valuable aids to the foremen in inspiring the necessary co-operative spirit among all their men.

The object and purpose of the National Council for Industrial Safety is, as I understand it, to cultivate a universal spirit for injury prevention in the United States, not alone among employers of labor great and small, but in the governments of states and municipalities and among the people generally. That in carrying out this purpose the Council acts as a clearing house of information, distributing weekly to all its members the safety ideas, suggestions and experiences of other members.

A safety movement of national scope is, in my opinion, needed by the railroads of this country, because such an organization can be a most potent factor in cultivating a public sentiment which will demand the enactment and enforcement of laws that will stop the great trespass evil which is responsible for more than one-half the death and more than six thousand of the serious injury cases that occur annually in the operation of the railroads of this country and which the railroads are powerless to prevent.

Because such an organization can do much to check the constantly increasing number of collisions of trains and automobiles

at highway crossings by persuading auto drivers and others to use the care necessary at such crossings to insure their safety.

Because the activity of such an organization will tend to modify the almost maniacal desire and demand of the public for the speeding up of passenger train schedules to speeds that are unsafe and unwarrantably expensive and to inculcate a spirit in the public for the taking of greater care when getting on and off trains and when on railroad premises.

Because such an organization having as members some of the greatest industrial establishments and railroad systems in this country gives to each member the safety ideas and experience of all other members.

THE CHAIRMAN: We have all listened with pleasure to Mr. Spaulding's paper. It is now open for discussion, and I will call on the Superintendent of the Insurance Department of the Pennsylvania Railroad Company at Philadelphia, Mr. R. H. Newbern, who will discuss this paper from the point of view of the value of comprehensive statistics on safety work.

MR. R. H. NEWBERN: Mr. Chairman, Ladies and Gentlemen:

FORM OF REPORT.

When the Pennsylvania Railroad began a systematic effort to reduce accidental injuries to its employees in 1910, one of the problems was to develop an accurate system of personal injury accident statistics. The first step was to devise an accident report which would clearly show the primary cause of the accident and other information as to whether any rules were violated, who was responsible, what discipline was imposed, what guards, precautions or instructions would have prevented the accident and what action was taken. A form of report was finally adopted in 1911 containing 29 items of information, and is now standard on the Pennsylvania Railroad and all its affiliated lines.

NUMBER OF REPORTS—"HOLLERITH" SYSTEM.

CLASSES OF EMPLOYEES.

On the Pennsylvania System employing over 225,000 men and carrying over 185 million passengers and with a freight movement exceeding 385 million tons annually, there are 60,000 reports of accidents to employees and 10,000 reports of injuries to passengers

and others forwarded to the Insurance Department. In order to simplify the handling of this large number of reports, the "Hollerith" system was adopted and a code prepared showing causes, nature of injuries, occupations, locations, days disability and other items of information necessary in the analysis of accidents. As the reports are received they are codified, each item of information being marked with its designated code number and a permanent record of the accident is transferred to a card by means of a punching machine, and when statements or data are needed for the information of the Executives or Operating Department or for the guidance of the safety organization, the cards are sorted by means of machines and the desired information obtained quickly, accurately and economically.

For statistical purposes employees are separated into two classes, one, employees in the maintenance of equipment, commonly known as Shopmen, and the other, all employees such as Trainmen, M. W. Men, Station Men, etc., designated as Road and Yard Men.

The statistics provide for the following information:

The number killed and injured by

Detailed Causes.

Nature of Injury by Cause and Occupation.

Length of Disability.

Occupations.

Length of Service.

Time of Day or Night.

Weather Conditions.

Divisions.

Grand Divisions.

Shops.

Large Stations and Yards.

DETAILED CAUSES.

The statistics are compiled on the same basis for Shop and Road and Yard accidents, excepting as to detailed causes, there being 360 Shop causes and 340 Road and Yard causes, making 700 separate causes of accidents. The causes in turn are classified under 36 General Headings which indicate the nature of the work at time of accident. These General Headings are as follows:

SHOP.

Operation of machines and working material.
Repairing locomotives.
Repairing cars.
Handling and use of hand tools.
Handling and use of jacks.
Handling material.
Trucking material.
Tools and material falling.
Working around turntables, coal docks, ash pits.
Operation of cranes, hoists and other devices.
Obstruction and material in aisles, passages and footways.
Defective floors and footways.
Erection of scaffolds and working on same.
Ladders.
Electrical.
Handling ice.
Getting on or off engines or cars at rest.
Getting on or off engines or cars in motion.
Causes not otherwise classified.

ROAD AND YARD.

Getting on or off engines or cars at rest.
Getting on or off engines or cars in motion.
Setting and releasing hand brakes.
Coupling and uncoupling cars or engines.
Connecting and disconnecting steam and air hose, including operating angle cock.
Accidents on or around locomotives.
Operating switches.
Handling baggage and mail and baggage trucks.
Falling in ash, turntable and inspection pits.
Slipping or tripping on coal wharves, platforms, walks and bridges.
Working on or around engines, cars or trains.
Crossing or walking in yards or on tracks or bridges to and from work.
Insufficient clearances.
Obstructions around tracks and in yards.

Loading, unloading and handling freight, etc., at freight and transfer stations.

Working on or around tracks and buildings—including loading and unloading.

Causes not otherwise classified.

HAZARDOUS WORK AND PRIMARY CAUSES.

By comparing the number of accidents under each General Heading we ascertain what kind of work is the most hazardous and the specific cause under which the accidents are reported. The primary cause of every accident is indicated. The records are kept by Divisions, Shops, Stations and Yards, and it is, therefore, easily seen at what points any particular kind of accident is most frequent.

MISCELLANEOUS INFORMATION.

NEW MEN AND EDUCATIONAL METHODS.

There are included in the statistics additional information bearing an important relationship to accident frequency, such as the average age of employees, length of service, etc. Regarding the length of service, it was found that during the year 1913 there were 90,000 new men employed, although the total increase in the number of employees for the year was less than 9,000, the greater number of transient employees being in the Maintenance of Way Department. The statistics developed the fact that during the year 25 per cent of the men killed and injured had less than six months' experience and that 28 men were killed and 2,391 injured who had been in the service less than 30 days. Assuming a similar experience on all the other railroads of the United States, at least 360 men were killed and 15,000 injured last year having less than one month's experience, and many met death during their first week's work—not because they were careless or foolhardy, but because they were ignorant of the hazards of the work. It is recognized that the education of employees is one of the most important features in safety work, but the large number of transient men makes this educational feature a difficult problem. Experience also indicates that a greater effort should be made to instruct the new man as to the hazards of his occupation before he is permitted to be placed in a hazardous position.

INJURIES BY OCCUPATIONS.

A business employing men in more than 100 occupations will be unable effectively to teach the doctrine of safety unless some means are provided to discover the number of injuries sustained by men in each specific occupation. The statistics, therefore, are so arranged that the number of injuries and fatalities can be shown in each department and to each occupation of the various departments, also the reports are tabulated to show the specific cause for each occupation. This information will of itself suggest definite instructions along safety lines.

TIME OF ACCIDENTS.

The number of accidents occurring during each hour of the day or night is shown, as the time of the accidents suggests various preventives, such as improved lighting facilities and re-arrangement of working hours.

DAY'S DISABILITY.

A statement of so many men injured on railroads during a certain period does not convey a proper meaning; it is the loss of time that shows what the employee really suffers. Therefore, the statistics provide for the number killed, the number injured, the number of indefinite injuries and the actual number of days lost. Our statistics include all accidents resulting in a disability of one day and over. It was found that 18 per cent of all the injuries involved less than four days' disability, and the number of "15 days or over" accidents (the minimum period covered by liability laws) amounted to 50 per cent of the total days disability.

Our statistics also show the nature of the injury; this information embodies 141 different kinds of injuries included under the following General Headings:

NATURE OF INJURY.

Amputation.	Fractures.
Eye Injury.	Electrical Shocks.
Sprains and Strains.	Burns.
Bruises.	Dislocations.
Incised Wound or Laceration.	Injuries not included above.

This information enables the management to study methods of treatment to reduce the length of disability. Take the subject of fractures for example: There were 758 cases last year resulting in 19,190 days of disablement, 87 indefinite disability cases and 53 fatalities. The medical profession recognizes the necessity for the best treatment of these injuries, as fractures may result in extended disablement on account of improper treatment.

REMEDIES SUGGESTED.

The value of accident statistics depends largely upon the remedial action they suggest, and the Safety Inspectors by analyzing these statistics become familiar with all the hazards of operation and such knowledge has been found invaluable in inspection work.

OTHER USES OF STATISTICS.

Statistics also form an important feature in the operation of a safety organization, based on the theory that what has happened is a reliable indication of what will happen. They are also valuable on the educational side of the question as they show each man the causes responsible for accidents in his particular line of employment, and it is the practice to attach to all inspection reports, statistics of all accidents occurring at the points covered by the inspection. Our experience clearly indicates that comprehensive accident statistics furnish a most effective means of suggesting remedial measures in accident prevention work.

THE CHAIRMAN: I now call upon Mr. M. A. Dow, General Safety Agent, New York Central Lines, New York City, to further discuss Mr. Spaulding's paper.

MR. M. A. DOW: Mr. Chairman, Ladies and Gentlemen: The safety problem of the railroads is a subject of such proportions that a discussion of it in a few minutes' time must necessarily be confined to its more salient features. The most important of these features have already been outlined here and, as I heartily agree with the speakers who have so ably presented the subject to you, I think I shall confine my remarks to an endorsement rather than a discussion of their addresses, and perhaps emphasize further one or two of the points introduced.

It is my firm conviction that the greatest and most powerful accident preventive influence lies in the education of the masses. I have little faith in any theory that classes thoughtlessness as a heritage, uncontrollable and incurable, but I am convinced of a condition that confronts us today, of a habit, almost universal, of carelessness and chance-taking that is cultivated and permitted to be cultivated by that sleeping colossus, the American public, but which some day will be nearly, if not entirely, eliminated by systematic and persistent education.

It has been pointed out to you today that railroad accidents are divided into two classes, those to the public and those to employees. I would supplement this by saying the railroads are confronted with two great problems in safety work—that of educating the public and that of educating the employees.

On account of the brief time allotted to me, I am going to confine my discussion to what seems to be the greater problem of the two, that of educating the public, or the problem of controlling through education, railroad accidents affecting the public, and will sub-divide those as between travelers on the highway and trespassers, omitting passenger accidents, which are largely within the control of the railroads themselves.

First, as to highway crossing accidents, I am going to make a bold assertion, based upon my 12 years' experience in the investigation and observation of railroad accidents, and that is that practically every accident that has occurred on a highway crossing could have been avoided through the exercise of ordinary care on the part of the traveler-on-the-highway, regardless of whatever fault there may have been on the part of the railroads or their employees. Please do not misunderstand me, for I am not here to excuse or condone the faults either of commission or omission on the part of railroads which may have contributed to some of these accidents. I merely wish to point out as strongly as I can the fact that ordinary care on the part of the traveler will in the majority of cases prevent such accidents. To determine with what degree of care the average person approaches places of danger, I recently caused an investigation to be made at three important railroad crossings located at widely separated points on the New York Central Lines, one at Syracuse, one at Detroit and one at Indianapolis. A careful check was made of every traveler on foot and in vehicles passing over

those crossings between 7:00 a. m. and 5:00 p. m. on a certain day last December. Out of a total of 7,779 persons who crossed the tracks, a total of 359 of them took the precaution to look both ways before crossing the tracks. Assuming that these tests fairly indicate the habits of people generally throughout the country, there is less than 5 per cent of them who use all the care and caution in daily practice that ought to be used.

Let us turn now for a moment to the other subdivision of this problem—the trespassers. Interstate commerce records indicate that there are considerably over 5,000 persons killed and an equal number seriously injured annually while trespassing on railroad tracks or trains. The number killed annually while trespassing is more than one-half of the total fatal accidents on railroads each year. A careful investigation made by officials of two of the big railroad systems shows conclusively that at least 75 per cent of these trespassers are of the wage earning class and women and children, only a small percentage of them being of the so-called tramp or hobo class. What stronger or more conclusive evidence of the wide-spread habit of carelessness can there be than the everyday persistence with which these human beings deliberately and unnecessarily place their lives in jeopardy? And it is the control of this class of accidents that forms one of the most difficult safety problems confronting railroads today. It is a problem that really should be dealt with by National legislation, because it is a problem so far reaching, affecting such a vast number of persons and not within the control of any one community or any one railroad. A law prohibiting trespassing on railroads would greatly aid the work of preventing this class of accidents because it would help to impress the public with the seriousness of the offense and would give the railroads the right to exclude, under the penalty of the law, these trespassers from their property. But such a law in itself alone would not prevent trespassing nor trespassing accidents, any more than would a law which would require a person to stop, look and listen before crossing a railroad at a public highway crossing prevent crossing accidents. Such preventive legislation must be reinforced by thorough, systematic and effective education to convince all persons that such laws were framed for their own protection and to save human lives, and not merely to guard the railroad property against unlawful intrusion. A large part of this work of educating the public to be

careful and not take chances by trespassing on tracks or by not stopping to look and listen at crossings has thus far been assumed and undertaken by railroad officials. It is a problem, however, that should be handled not by the railroads alone but by the public itself. This educational work should, in fact, begin in the schools, through a thorough and systematic training of our school children in safety, pointing out to them dangers they must avoid and inculcating in them habits of caution that will serve them through all the years of their lives. It does seem to me that many, many accidents to persons of mature years are caused through a spirit of carelessness or lack of self caution that is formed early in life and allowed to grow and become a habit and go on unchecked, reaping its annual harvest of killed and injured in a most deplorable and unnecessary manner.

Whatever work is attempted along the lines of Safety education, no matter whether pertaining to railroad trespassing, crossing accidents or any other class of accidents, must be constructive in character and aim to a definite purpose. We cannot simply shout the slogan "Safety First" and expect results. We must work persistently and systematically along clearly defined lines and educate as to what is unsafe, what causes accidents and what must or must not be done to prevent them.

The heads of many of our great industries and railroads have awakened to the need of education in accident prevention as far as their employees are concerned and the results thus far attained more than justify the effort that has been made. But we have found that to train the present-day adult, who has formed habits of carelessness, into forming such of prudence and caution, is a tremendous undertaking. It is like trying to strengthen a house when the foundation is weak. But if we will begin with the children of the present day who are to become the bread winners of tomorrow and carefully and painstakingly train them into habits of carefulness and safety, we will build a firm foundation for that new house, a future generation, and in good time we may look back upon our handiwork and say: "It is indeed a strong house—we have builded better than we knew."

Perhaps to many of you I have gone beyond the practical work of today in this discussion. But I merely want to impress upon you the fact that the railroads, which have ever stood firmly upon the

principles of safety as the first consideration and which have in recent years made wonderful strides in perfecting operation, equipment and the efficiency of employees, are confronted with two classes of accidents affecting the outside public, which can never be successfully or appreciably prevented until the public is sufficiently educated to become vitally interested. The National Council for Industrial Safety, an organization of sterling, thinking business men, has a great opportunity to lend a powerful influence for the solution of this problem. One of the benefits to be ultimately expected as a result of this so-called safety movement is that it will create a wide public sentiment against unnecessary recklessness, which will do more than all else to deter the heedless chance-taker and check his mad career. If, for instance, this widespread educational work will create among the majority of people a sentiment that frowns upon habitual carelessness and chance-taking on the part of individuals as well as corporations, then those who cannot be corrected in any other way will begin to consider the matter seriously, because the sentiment of the majority has demanded it. Public sentiment has demanded and received from railroads throughout the country the safest and most improved equipment and methods of operation. As a consequence the number of passengers killed and injured as compared with the number carried is infinitesimally small. We ought not to forget that the life of the man carrying his dinner pail, who heedlessly uses the railroad tracks as a public thoroughfare, is just as dear to his family and of just as great value to the community as though he paid a dollar to ride. If the public will take enough interest in the individual acts of the trespassers and the travelers-on-the-highway to insist upon the elimination of their recklessness, there will be a possibility of solving the problem of reducing these classes of accidents.

If there is doubt in your minds as to the efficacy of the measures I have outlined, then let me assure you by saying that because in New York State we have a definite law prohibiting trespassing on railroads and making it a punishable offense; because we have within the past year employed a special man to personally visit the judges of all courts having jurisdiction in these cases along the entire road to obtain their co-operation in the enforcement of the law; because not only in New York but all other States through which our lines run the editors of newspapers were personally vis-

ited and their aid procured in giving wide publicity to our campaign; because we posted at frequent intervals warning notices in various languages along the entire right-of-way, warning the public against arrest or injury for track walking; because we prepared graphic maps indicating the number and location of trespass death and injury cases, which we displayed in prominent store windows in important cities along our lines; because we distributed pamphlets and circulars to the superintendents of schools and heads of industrial plants enlightening them and obtaining their co-operation; because we did all of these things in a persistent manner, thereby educating and warning the public against the dangers of trespassing, there were during the year ending June 30, 1914, on the four principal roads of the New York Central lines 109 fewer trespassers killed and 83 fewer trespassers injured than during the previous fiscal year.

Let us then make education our watchword as well as safety our creed. Let us light the torch of prudence and hold it aloft that its rays may penetrate the remotest corners of the land, eradicating the darkness of ignorance which cloaks the chance-taker and those who are careless, thoughtless or indifferent to safety. Let us spread the gospel of safety broadcast and train our citizens of both present and future to think before they act and not go mechanically and irresistibly into certain danger where danger is known to exist. If the National Council for Industrial Safety by its earnest effort will work for a broader and better education of the masses, I am of the firm conviction that a great step will be taken toward the solution of these two accident problems of the railroads, which need only the public's attention to prevent.

THE CHAIRMAN: We are now going to turn our attention to "The Safety Problem in the Highways of the Municipality." This paper was to have been read by Mr. William P. Eno of Washington, but unfortunately he could not be here. Mr. H. W. Forster, one of the directors of the council, will read this paper. Mr. Forster.

MR. H. W. FORSTER: Mr. Chairman, in the absence of Mr. Eno I sincerely regret the necessity of being inflicted upon you again. Of necessity, I shall have to read his paper, and to follow it fairly closely. I hope you will get as much pleasure out of it as I did by glancing through it before I stepped on the platform.

In discussing this paper briefly with some of you, when I was delegated to be the victim to appear before you, it was suggested that Mr. Eno, who, by the way, is an international authority on this subject, had opened up an excellent field for safety council activity, and it occurs to me that this meeting may care to go on record as suggesting to the executive committee the creation of a public safety section which will help promulgate this class of information.

As I may be permitted to say that, to put that in the form of a resolution, without repeating it, I shall be happy to do so.

DOCTOR J. D. PATTERSON: I second the resolution.

The question was then put and the resolution adopted.

Mr. Forster then read Mr. Eno's paper, which was as follows: Mr. Chairman, Ladies and Gentlemen:

The subject upon which I have been asked to speak is a technical one and I am treating it so exclusively, as I must confine my remarks to a brief space and wish to call your attention only to those points which should be useful in helping to put the regulation of traffic on a still more effective basis than it is at the present time.

Safety is the primary object of street traffic regulation and depends entirely upon it. It means also a great annual saving of money as well as of life.

In New York alone the monetary saving in time is far in excess of the entire cost of operating the Police Department.

FIRST RULES OF THE ROAD.

Up to 1903 there was practically no attempt to regulate traffic except in British cities, and even these had no printed regulations, the drivers being guided by the unwritten rules of the road, and the police well trained. The results were excellent, but it had taken generations to obtain them.

In New York the same results were needed without delay. The first step was to teach the drivers some kind of rules and to educate the police to enforce them. Therefore, the unwritten rules of the road, together with a few new but simple regulations, were codified and printed in the Police Manual, in pocket folders and on placards for stables, garages and cab stands.

These regulations, consisting of about 500 words, went into effect



in New York October 30, 1903, and are in operation today; the only changes made since have been to simplify and develop from time to time as our experience widened. They were officially adopted in Paris July 10, 1912. In this way almost identical regulations obtain now in London, New York and Paris, as well as in many smaller cities.

Traffic regulations should be *Police Department Regulations* and not *Municipal Ordinances*. One ordinance or other law empowering and making it the duty of the Police Department to regulate traffic is all that is desirable.

Most cities already have some law that will serve the purpose. If not, the following form is recommended:

"The Police Department is hereby authorized, empowered and ordered: To direct, control, restrict and regulate in the interest of public safety, health and convenience, the movement of pedestrian, animal and vehicular traffic of every kind in streets, parks, bridges and public places, and to adopt, enforce and change regulations in regard thereto."

ORGANIZATION OF TRAFFIC IN POLICE DEPARTMENT.

The management of traffic by the police, if the drivers know the regulations, adds but very little, if anything, to the cost of police work. This is due to the fact that the men composing the traffic squad are not withdrawn from regular police duty, but are so placed by their special assignments as to have an effective supervision of their locality, where they are readily found in case of emergency. Their duty constitutes what might be termed "fixed post duty" by men on foot; and "limit patrol duty" by men on horses and cycles.

A well trained body of mounted police is essential to every large city for the management of parades, escort duty, suppression of riots, etc. A mounted traffic squad furnishes this economically because daily traffic duty gives regular employment.

All policemen, moreover, should understand that they have general traffic obligations, and to make this understood the following order should be issued from headquarters:

"You are hereby informed that it is the duty of all policemen to correct, instruct and reprimand drivers for infraction of regulations, and if an offence is committed with intent to block traffic or to interfere with the rights or safety of others, to take the driver's name,

number and address, the vehicle number, if any, and any other particulars that may be useful for identification, and report them at your precinct for action. In case of a serious offence, the driver should forthwith be arrested."

The traffic police generally are doing excellent work and in some cities have become particularly efficient and equal if not superior to those of London, but the organization work has nowhere as yet been perfected. Every Police Department should have a Bureau of Street Traffic with a sub-branch known as the Public Carriage Office, under which the licensing of all public and business vehicles and the examination and licensing of their drivers should come as in London. The Bureau should keep a complete record of all complaints and of accidents and their causes, with a view to reducing their number in future. Numerous statistics of accidents and deaths due to traffic have been attempted in the great cities of the world, but none of them are anywhere near complete, for the reason that they cannot be all reported and a larger number of those who are slightly or seriously hurt, or who have died afterwards, are never recorded.

RULES AND REGULATION FORMS.

Printed regulations are inexpensive. A standard form should be freely distributed and placarded so that a plea of ignorance can be no valid excuse for either driver or pedestrian.

The regulation of street traffic has grown to be almost an exact science, and as such it is as important to know what should be left out as what should be put in.

Traffic rules must above all be short, concise and clear or they will not be read; and reasonable, or they cannot be enforced.

The study of traffic regulation with a view to further improvements should be encouraged, but under no circumstances to the extent of allowing inexperienced persons to disarrange and confuse thoroughly tested rules.

NECESSITY FOR STANDARDIZATION AND WHY IT HAS BEEN RETARDED.

Realizing the proven value of traffic regulation to New York, many other cities delegated aldermen, commissioners, police officers or committees to formulate traffic rules, usually wrongly putting

them in the form of an ordinance instead of police regulations. These officials with few exceptions, not content to profit by experience, appear to have been actuated by a desire to originate and satisfy a pride of authorship, the result being that, while almost everything of value has been culled from the New York regulations, they have been so confused by rearrangement and re-wording and by unimportant interpolations and important omissions that they are not only non-uniform but confusing and much too long—the set for one unfortunate city, for example, containing over 6,500 words, lacking both sequence and order.

With the advent of the automobile and the consequent increase in interurban, interstate and international travel it is of the utmost importance that regulations be standardized.

The efforts of the International Road Congresses, automobile associations and clubs everywhere are being directed towards uniform road rules and uniform motor laws. The Federal Government can legislate only for the District of Columbia and the territories, but it should co-operate with those states which are attempting to bring about uniformity, thus furnishing a powerful precedent for the other States to follow.

The necessity for standard traffic rules is apparent, but formulation has been delayed in order to thoroughly review the regulations now in force in New York, Paris and elsewhere, especially as certain problems have recently grown acute, particularly that of the regulation of waiting and parked vehicles.

In the preparation of the Standardized Street Traffic Regulations, herein recommended, the assistance of those who had contributed to the compilation of the New York regulations was obtained, and also that of a number of others whose training made their co-operation of special value, while the experience gained in London, and also in Paris in consultation with the police authorities and the officials of the drivers' syndicates, motor clubs, etc., has opened up other viewpoints.

No essential changes have been made in the present New York and Paris regulations, though greater brevity and clearness have been obtained. They contain about 1,000 or 1,500 words, including definitions, etc., covering only that which is essential for all cities.

The foregoing suggestions—an organized Bureau of Street Traffic; General compulsory traffic duty for all policemen, and

standardized printed Traffic Regulations freely distributed, will add much to the safety of the community as well as to its convenience and comfort, but it may be still further enhanced by the substitution of Rotary Traffic for the Block System at intersections where there is sufficient space; by isles and promontories of Safety; by crow's nests; by changes in car tracks and curb lines, and by one-way traffic streets, the details of which would take too much space here.

I am leaving with your National Council a copy of the newest standard traffic regulations brought up to October 1, 1914.

TRAFFIC REGULATIONS, to obtain the best results anywhere, must be uniform everywhere, varying only slightly where absolutely necessary to fit local conditions. What more confusing and dangerous than different regulations in different cities. Each Board of Aldermen or City Commission should limit its activities to passing one short ordinance empowering the local police department to regulate traffic. (See Note 1.)

Each Police Department should be obliged to adopt the Standard Traffic Regulations (See Note 2) and be consulted whenever any change is contemplated in curb lines or car tracks, which may affect moving or stationary vehicles. During the past few years serious mistakes have been made when car tracks and curb lines have been changed through the lack of knowledge of traffic requirements by the officials in charge. Such mistakes should, of course, be avoided in future.

MOTOR LAWS also should be uniform everywhere. The present laws should be wiped off the slate and a new universal set substituted. This set should be confined to the following points:

First: A sure identification system of cars by number plates and manufacturer's number indelibly marked in the steel of the chassis in a legally specified manner and place.

Second: Licenses for all drivers granted only after strict examination testing mental and physical fitness as well as efficiency, in order to show that the applicant is able to drive his vehicle with safety to the occupants of the car and to the public under the kind of conditions which he meets in actual practice, and to exclude those with especially defective eyesight or hearing and those with epilepsy or other ailment likely to render them suddenly unable to control their vehicles. The licenses should be in the form of a small pocket-

book, like that in England, with numbered leaves in the back, which must not be torn out nor defaced, and are for the purpose of recording breaches of regulations, accidents, complaints, convictions by magistrates, etc. It should contain the applicant's signature, place of residence, and any other available means of identification, and in case of a professional or hired driver it should also contain his photograph, stamped with a die to prevent substitution. A record of a conviction should be immediately forwarded by the magistrate to the office from which the license was issued, so that in case of a loss of license a duplicate can be furnished containing all records made on the original. The old numbered pages also, when the license is viseed, should be returned for filing in the office where it was originally taken out and fresh pages substituted. Once a license is obtained it should not be required to be renewed but simply viseed at any license office once a year. If the record of the driver for the year past is found unsatisfactory the Board of Examiners should have the power to require a new examination or to refuse to renew a license. The charge for examination and license should be ample to cover expenses plus a small revenue, probably from \$5.00 to \$10.00, with a small amount, say, \$1.00 to \$2.00, for being viseed.

The distribution of charges would sufficiently evenly distribute the revenue.

Third: Such regulations as to lights, sound signals, brakes, speed, etc., are necessary for the safety of the occupants of the car and the general public.

Obedience to and enforcement of traffic regulations cover everything else needed.

Registration and license granted anywhere should be good everywhere in the country.

The penalty should be severe for driving a car without a license or under expired license, except in an excusable emergency.

Last year the governors of several states appointed committees to consult together with the view of framing and adopting a uniform motor code, but although it was a step in advance in an educational way, it resulted in nothing definite because the committee of each state wanted all the others to follow its code. The codes of all but one were complicated and unworkmanlike, the one exception being New York, whose committee submitted a short, concise and clear law amply covering all essential points.

It should, therefore, appear that to start with several states were impractical. I suggest instead that the Governor of New York authorize its committee to adopt its code and to extend an invitation to any other state adopting the New York code, or at least one covering its requirements, to exchange privileges as to license and registration without extra charge. This would undoubtedly bring in a few states right away and others would eventually follow. The charge for license and for registration should be a matter for each state to decide for itself.

Note No. 1.

Proper form for clause in City Charter or Ordinance: The Police Department is hereby authorized, is empowered and ordered: to direct, control, restrict and regulate in the interest of public safety, health and convenience, the movement of pedestrian, animal and vehicular traffic of every kind in streets, parks, bridges and public places, and to adopt, enforce and change regulations in regard thereto.

Note No. 2.

The first set of regulations, consisting of about 500 words, went into effect in New York October 30, 1903, and is in operation today; the only changes since made have been in simplifying and adding thereto from time to time as our experience widened. They were officially adopted in Paris July 10, 1912. Now almost identical regulations obtain in the three greatest traffic cities of the world—London, New York and Paris—and in many other cities in America and abroad, though in many cities they have been unnecessarily complicated and too verbose to be easily understood by the general public.

In the preparation of the proposed Standardized Street Traffic Regulations the assistance of most all those who had contributed to the compilation of the New York regulations was obtained, and also that of a number of others whose training made their co-operation of special value, while the experience gained in London and also in Paris in consultation with the police authorities and with the officials of the drivers' syndicates, has opened up other viewpoints.

No essential changes have been made in the existing regulations, though greater brevity and clearness have been obtained. These

regulations contain about 1,000 words to 15,000 words, including definitions, etc., covering only those things which are essential.

THE CHAIRMAN: The last item on our program for the session of this afternoon is a discussion of Mr. Eno's paper. This discussion was to have been led by Mr. William A. Searle, Secretary of Rome Chamber of Commerce, Rome, New York. Unfortunately Mr. Searle was unable to come here, but I understand he has sent on his paper. It will be read by Doctor F. D. Patterson of Philadelphia.

DOCTOR F. D. PATTERSON: I have been requested by Mr. Campbell to read the discussion which Mr. Searle has entitled "Another Side of the Problem." Here it is:

Mr. Chairman, Ladies and Gentlemen:

It is a pleasure to listen to such a clearcut, practical and suggestive paper as that prepared by Mr. Eno. His suggestions are so full of common sense and have been so tested under the most trying conditions of the metropolis of this country, that they sound like the common law of the land. Mr. Eno leaves little to be said or controverted. My personal observation in two large cities other than New York leads me to the opinion that Mr. Eno's conclusions and suggestions are sound, but the problem of the city or town with a limited, overworked police force is lost sight of. His discussion, while of recognized importance to the 100 cities of this country having a population of 50,000 or more, is hardly as applicable to the 700 or 800 places with populations ranging from 10,000 to 50,000.

Taking up the subject at the point at which he has dropped it there is much to be accomplished after the proper ordinances have been placed on the books and the policemen instructed.

It is acknowledged that the personal element is the big factor in accident prevention, whether it applies to traffic regulation or what not. Granted that a faultless ordinance has been drawn, reinforced by a perfect set of police rules, and many accidents will occur, many delays in traffic will result, occasions will arise which will make the rules appear useless; because the individual, the pedestrian, the driver, the bicycle rider, the child in the streets, does not know or heed. The law which is understood and heeded needs no enforce-

ment. The other side of the problem then seems to me to be the education of the public to an understanding of the law and heedfulness of the rules for safe traffic and movement about the streets whether it be a city of a million or a village.

In a recent campaign for safety in Rome, N. Y., the chief emphasis was laid on personal responsibility. Rome has a good set of traffic rules. They might be improved, but it was felt if a better understanding of the movement of traffic in the streets were given and the individual made to realize his responsibility to himself to be safe and cautious that better results would obtain than by a revision of the traffic rules. I believe the months that have elapsed have proved this point well taken. A report from the trolley company in Rome for three months following the campaign showed a decrease of 25 per cent in accidents over the same months the year before. There was no agency to ascribe this to excepting the campaign that had been carried on. The traffic rules have not changed, but much of the congestion previously noted has eliminated itself by drivers and pedestrians taking more heed to their movements in the cause of safety. The blockade of traffic for a few minutes is not to be compared with the loss of a life. The first aim should be to make the streets safer; secondarily, to make them quicker avenues of traffic.

My observation leads me to think that the most effective work that was done in our safety campaign was that directed at the children. Youth is a time of irresponsibility and the rousing talks that were given in every public and parochial school of the city, made interesting with blackboard illustrations and stories from life, have had the most profound effect of anything that was done. I believe that one thing remains beyond the campaign stage and that is to make a part of the curricula of all schools a certain amount of safety work. The schools teach a child that it is wise to clean its teeth, that its health demands this care and that, but we leave the child uninformed in regard to safety from accident and how it may safely go upon the street. The objection is that the child must learn caution for itself. Do we allow the child to learn caution for itself where a scarlet fever or smallpox sign is displayed on the door?

Statistics show that Europe is a much safer place to live than America simply because of the larger number of fires (preventable) and accidents (also preventable) in this country. Europe has reached the higher place in safety only by a slow process of educa-

tion and we are losing an opportunity when we fail to direct efforts for safety education at the children.

By my frequent recurrence to our safety campaign here I do not mean to imply that we worked out any perfect system. We adapted the best obtainable to our circumstances. So far as we were able we reached every class, every age and every nationality. This we did by means of shop talks in English and Polish, stereopticon lectures and motion pictures in the city park, posters, etc. Nor did we neglect the mother and the home. Into every home went an attractive bit of literature in the form of an insurance policy, illustrated with pictures which had short stories attached suitable for reading to children. On one side of this policy were gathered short, snappy safety sayings, some original, some taken from the work of other safety workers, but every one a live, a helpful suggestion.

This may all seem a divergence from the general proposition of Problems of the Highway, which I have been asked to discuss. In answer to that I would simply say that an analysis shows that the safety problem is very largely concerned with the highways and traffic in some form. State and municipal laws are taking care of guarding machinery and erecting fire escapes, but the dangers of a highway can be safeguarded for the individual only by arousing in him a sense of caution. It is trite but still true that at the crux of the safety problem is that almost inert mass, the individual. The problem of safety is still the problem of the individual.

THE CHAIRMAN: Ladies and gentlemen, this completes the Transportation and Service Session.

(President Campbell took the chair.)

THE PRESIDENT: I think we are greatly indebted to Mr. Insull for his excellent paper and for his service to us as Chairman of this Session. I extend our thanks to him for both.

Before taking up the second half of our afternoon meeting, it has been suggested that I present a question that came over from the morning session of the "Round Table," at which many of you were present. The proposer of one of the resolutions and the seconder thereof (which resolution was carried) have suggested a slight modification in the phraseology of that resolution, and have asked that the change be suggested; and, if there be no objections, that the resolution be considered adopted as changed.

The change has to do with the resolution respecting the use of intoxicants in the industry. The part of the resolution that it is desired to alter forms the last few words of the second paragraph, "Eliminating the use of intoxicants," as it now stands, "among the employees of the National Council." The alteration suggested is to substitute the following words, "Eliminating the use of intoxicants in the industries of the nation." If there be no objection that change will stand as made to the resolution adopted by the Round Table this morning. Do I hear an objection? There being none, that action will be considered as taken.

The last of our formal sessions is that which we have entitled, "The Manufacturers' Session." When considering the subject of Safety it is always fitting that some part of the time be devoted to the manufacturers, because while we have made great progress during recent years in the Safety Movement, it still stands as a fact that it was upon the individual manufacturer in the first instance that the burden of the Safety Campaign devolved. And among these original manufacturers who have done much to make the Safety Movement what it is, there are none who stand out more prominently than the gentleman who is to preside over the second part of our Session. I refer to Mr. Melville W. Mix, president of the Dodge Manufacturing Company, of Mishawaka, Ind., who will preside over this Session and who will read the opening paper on "Safety as an Asset to Manufacturers." (Applause.)

Ladies and gentlemen, I take pleasure in introducing Mr. Mix to you. He will run the meeting from now on.

(Mr. Mix here took the chair.)

THE CHAIRMAN: Ladies and gentlemen: The program is a little later than the schedule indicates, and I am not going to take up any of your time with the usual pleasantries, beyond thanking you for the honor conferred upon me in asking that I should preside as Chairman of this Session.

I took some little exception to the title which was given as the subject of this paper, "Safety as an Asset to the Manufacturer." As you will note later in the paper, I am treating it entirely from the standpoint of an investment, and prefer that the subject title should be "Safety as an Investment."

Safety-first, like any other general business movement, gathers to

its ranks certain individuals who are invariably attracted to any forward movement having humanity or progressiveness as its battle cry.

Their enlistment may, in a way, be compared to the thousands of enthusiastic, patriotic young men, who enlisted for a three months' term in '61 to go down South and "stop a little unpleasantness." The end of the three months came before scarcely a blow had been struck; and in the four long years of bloodshed that followed, these young recruits grew to love, and to love and die for the cause they had so impetuously joined.

Safety-first is a standard under which a "three months" enlistment is little more than useless. Safety-first only resembles the Efficiency Movement in its popularity. Safety-first is more than a hobby for the tired business man—more than an excuse to eat a good dinner at the expense of the committee and then listen to some more or less brilliant remarks made by as many chosen speakers who get nothing for their efforts other than the aforesaid dinner and what publicity their advertising man may be able to secure in friendly journals.

Personal aggrandizement has no place in a movement based on a humane principle. When France neglected principle and followed the person, Napoleon, she opened the trap of her undoing; persons pass on, but worthy principles are with us forever.

Safety-first is the cause of human life; the conservation of the human elements of production far more important to the progress of mankind than the mobilization of armies, and far more productive than the extension of boundary lines or religious creeds. It is safe to say that in the fifty-year period following the Civil war, almost as many men have lost their lives in the pursuit of their trade vocations as fell under the four years' hail of lead.

We see wealthy magnates lay fabulous sums at the disposal of a world-peace tribunal; and we see in what short space of time the martial strength of a continent may apparently forget the life-conserving principles to which they have subscribed.

Do we see any such enthusiasm in the cause of commercial or industrial safety? Is the blood spilled at the lathe, the forge, the throttle, or the grade crossing less red, less valuable than that shed on fields of battle?

It has been figured that the average cost of apprenticeship, including the cost of bringing a man to the working efficiency neces-

sary to profit, is somewhere around \$1,000. If this man is disabled from any cause, the employer must immediately recognize a charge for the cost of training another workman in addition to whatever damage he may be called upon to pay.

But the tremendous loss of life from accidents has not been in vain. Martyrdom always precedes the public endorsement of a cause—and just now when we enter the age of specialized profits, do we take up and support the cause of Safety-first.

To attach to this movement means that each of you must pledge your support, not in an impassioned or highly patriotic way—not by a rising vote or a rousing rally to the colors—but by a firm decision way down inside your heart—that you will join, support, assist and promote the cause of Safety-first wherever and whenever you shall find it. I do not mean that you shall sally forth into fields foreign to your endeavor. Let your own establishment be your first field of operation and victory is just as sweet, just as decisive, behind doors of your own establishment as it is in the workshop of your neighbor.

"But," you say, "why should I enthuse over a movement in which I have so little part?" And I answer, "Should you or would you enthuse over an added sum on the profit side of the ledger?" That's what it means exactly. Safety-first is an investment that you can and will eventually consider in terms of money.

And right here is where many employers have missed the point. Safety-first is not a philanthropic movement on the part of employer to employee. Safety-first is a hard practicality of business extension. It is a matter of dollars and cents; and whether you know it or not, you are prompted to its support from a very selfish standpoint.

That seems a hard statement, but it is not without its qualifications. There is a blood-and-soul side of every phase of business life, and I for one do not care to associate myself or my efforts with any organization or movement that does not take into consideration the rights, the benefits, the happiness and welfare of the workers.

But, the spiritual side of Safety-first concerns only the method of application of Safety-first principles. It is secondary. The primary tenets, the very foundation of Safety-first, is again the dollar, and it is upon that standpoint that I now speak. And you will listen, I believe, and weigh my arguments in the same cold manner as you

would decide any other momentous question of your business for the good and sufficient reason that it is less expensive to promote safety than to practice philanthropy.

The conservation of the lives of our employees is one of deliberation and debate; with such action as we may deem best carried out in a quiet, forceful line of daily endeavor in our individual vocations.

The assets of a business seldom receive recognition on any other basis than that of money, hence it is rather difficult to surround this topic with an attractive setting without using the dollar sign. Furthermore, the word "safety" is being so promiscuously and glibly applied to everything, from a pin to an ocean liner, that it seems difficult to work out a tangible exhibit of the asset value of the Industrial Safety Movement without confining it to certain restricted lines of employment exposure.

We must start right in our treatment of this question. The term "asset" means something with which to pay debts, generally meaning something negotiable, transitory, or of a circulating character. The word "investment," therefore, more correctly states what I believe to be the basis upon which we should consider the cost and effort in behalf of Safety—carrying with it the full value and meaning of something fixed—a part of the establishment and always to remain so. By virtue of its possession, the earnings are to be reckoned in some definite way.

It is really to prevent or minimize a possible liability rather than to be available to pay one, hence I feel quite justified in substituting the word "investment" for "asset" in this paper.

England has found it a good investment to abolish all railroad grade crossings, and enclose all rights of way, and it is quite evident that many of our American railroads would find, upon investigating their respective claim departments, that the sums expended for damages, maintenance of crossing guards, etc., at grade crossings and upon rights of ways, would pay a handsome return upon the investment necessary for grade separation and other forms of protection along their various properties.

By the same token, a private or corporate employer may be equally convinced of the investment value of adequate protection if he could have placed before him the tremendous cost of the waste due to the hazards of his particular establishment or of those of his industrial group.

The condition, whether physical or mental, which eliminates this economical waste and physical impairment and suffering, is the investment that we must consider.

It cannot always appear in the inventory; it may not be accounted for in the financial statement; it may not be a known basis of credit, yet in its very earning power it becomes one of the most productive elements of a business.

To such an extent is the importance of this investment being recognized that we find many national, local and trade movements under way which have for their purpose the exploitation of all manner of physical and educational safeguards—a matter of wide and enthusiastic interest and installation.

With the industrial growth of this country, there is rapidly developing the consideration of other forms of assets than brick and mortar, machinery or merchandise—and these have their value from other than the credit point of view; the personal comfort and satisfaction of leaving nothing undone to provide against known hazards of the business is of material value to an industrial organization, fully as much from the humane as the financial standpoint.

A guard at a given point may seem like a useless, idle investment, at a cost, say of one hundred dollars, or an annual interest and depreciation charge of, say \$15 per year. A very small capitalization indeed, if that unguarded position carries with it the potential hazard of a workman's life, or sight.

On the basis of protecting the hazard and submitting to a fixed charge per annum for our insurance premiums, we meet a parallel to the principle of fire insurance.

I have anticipated being able to submit a series of concrete examples of what investments may be made to earn in the way of savings upon the involved pay roll, but time has not permitted my making such a study at this time.

We do not hesitate to install the automatic sprinkler systems to reduce the cost of carrying our fire insurance hazard. We see every day cases of where the cost of installing approved fire protection is almost, if not entirely absorbed in the reduction in premiums within from one to three years' time. Such investments are popular, and no wise, judicious manufacturer questions the prudence of so proving himself against extraordinary loss.

Equipment companies and associations of fire insurance com-

panies are quite common, who, as a business, install such equipment in manufacturing and mercantile plants and take for their pay the saving in premiums for certain periods of time.

Why shall we not approach the time when similar conditions will apply in the matter of physical protection to the workers? The humane viewpoint may not always control the decision of certain types of employers, but from a financial or investment standpoint, a ready ear is nearly always found.

It may require the experience of severe losses to awaken many to the practical side of the question, but as sure as the passage of nation-wide compensation acts, or through other forms of legislative enactments, places a definite and increasing charge against disability, just so sure will those interested provide ways and means to meet the increased cost of providing against personal injury risks.

On the basis of a \$100,000 annual pay roll, at a basic rate of \$2.50 on the \$100, we have an annual cost of \$2,500 for liability insurance. If, by proper inspection and protection, credits may be earned to reduce this premium cost to, say \$1.25, per \$100 of pay roll, an annual saving of \$1,250 is effected. This will represent 10 per cent on our investment of \$12,500, which will be a comparatively large sum for providing the necessary appliances and supervision to accomplish such a result in a factory with a pay roll of that size.

Many guards or re-arrangements of production machinery will earn their cost every year, while others may be less favorable; on a basis of averages, such costs are better producers of returns than many which are more readily made because of more familiarity with the tangible results.

A few practical illustrations may suffice:

A pair of goggles may cost from \$1 to \$2; they may save an eye or two eyes that cannot be valued in money, but which may cost in indemnity from \$500 to \$5,000, or even more.

A press guard may cost \$10, and save somebody \$10,000 in a single possible accident.

A friction clutch may cost \$50 and save from 100 to 200 times its cost in facilitating quick stoppage of machinery at a critical moment.

In the line of employers' liability insurance, as in many other lines, there is a certain basic charge against the industry, and to meet such conditions it behooves those engaged in that industry to "get together," to eliminate or reduce those things which have cre-

ated this base, and thus place themselves, as a class, upon a more favorable basic condition. None are so capable of really improving conditions so much as those who are in daily contact with the work of their particular class, and they must be convinced through their pocketbooks, if in no other way, of the absolute call upon them to standardize equipment and practice in their various industries and in mercantile conditions, and to view the results on the investment basis.

In industries where the shop unit is small, the need for co-operation is all the more important, as they are individually less able to meet the losses due to disability and less organized to effect improvements.

We must meet the practical situation in this department of our employment risks with the same receptive frame of mind that we now do, through long years of favorable experience, in the matter of protection from fire, and in so doing, we meet the same conditions in returns on investment through physical losses, occupational losses, and business impairment through extraordinary misfortune.

We will never be able to prevent all accidents, no matter how much money is spent or how much study and education may be concentrated upon the subject; a certain percentage of the "Topsy" type of "just happened" accidents will be forever with us, and in these possibilities we may only hope to reduce their frequency and severity to a minimum through education and development of the cardinal principle of "Thinking First." We do know this, however, that in institutions where the employers and their representatives in charge of the work are in close and frequent co-operation with the workers, where each interest sees and knows that there does exist a sincere desire to protect and to alleviate, the influence thus created becomes a co-operative asset—a spirit of comradeship—compared with which the dollars in the financial statement are most insignificant.

We seldom hear of occupational good-will, yet in my judgment its presence and possession forms one of the most valuable assets that may be enjoyed by any business.

When men and women put their feet under the same table and plan for the safety of their fellow workers, there can be little room at that table for the sower of discontent, or the heartless employer. Until there can be a broad common ground of contact between em-

ployer and the employee, until each may fully understand the other's problems and viewpoints, we may seek in vain for industrial peace and co-operation except as a forced issue. Solving the common problem of safety is but one of these points of contact, but it has the highly creditable and attractive qualifications of carrying equal interest to the minds of all associated persons.

As an investment, occupational good-will should bear a parallel position with the trade-mark or the trade-name in the consideration of the standing of any concern in the community.

Conceived in the spirit of co-operation, born of necessity, it comes to its maturity in the spirit that makes products of the highest integrity and creates pride in the heart of every worker and of every associated employer for the handiwork of the output and the reputation by which they are known to the world at large.

Money is being annually spent by the hundred thousands for occupational and public protection and the work is only begun, yet at this time in money value, the savings due to eliminating expense, damage, physical impairment, may by all reasonable actuarial figures be shown to pay immense returns thereon. Remember, that wherever there is an employment danger, there is a capitalizable possibility for safety's sake. Concrete examples by the score might be here cited, but I recognize in this gathering that time thus consumed will be quite unnecessary.

We must not deceive ourselves with the thought that these losses are all in industrial employment—the manufacturer is not the protector for the greatest losses that are being borne! To be fair, we must take into account the losses due to agricultural and domestic employment, and to the public mishaps that occur daily in our streets and away from the organized forms of supervision and protection enjoyed by the average factory worker of today.

The corn shredder has emptied more sleeves than the lathe; the ladder has many a permanent impairment charged to its account; street accidents far exceed those of the factory in frequency and severity; so that we must consider the value of safety as an investment to the farmer and householder, as well as to the public, as they are represented through the various forms of State and Municipal government.

Large damages are daily assessed against cities, the cost of which must be paid by taxation.

These losses will pay interest and depreciation upon large sums expended for the safety of the public, and thus we meet the investment value of safety in a wider field, and, withal, one much less susceptible of regulation until the public pulse will feel the effect of the factory campaign upon the workers, and thence upon the rising generation; the youngsters who are thus being educated during the most impressionable period of their lives by the earnest work that is now going forward for and by their parents and associates will carry the slogan of "thinking first" far in advance of our present motto of "Safety-first."

The minimization of accidents produces a better feeling in the employments and leads to preferences being expressed for the employers whose workshops bear the best reputation for safety; thus the safe, well-groomed shop may have the call on workers, even though other things may be somewhat less attractive, and thus is possessed an asset of material value to those concerned.

The value and safety of maintaining good tools, and of selecting good materials, is all helpful in eliminating waste and promoting economy in their use and preservation, having for their effect the reduction of losses in production as well as by accident.

Close co-operation between employer and employee and through them with legislation will do much towards eliminating some of the troublesome questions that are arising in connection with the Workmen's Compensation and other employment laws which are being passed by the various States. Great care must be used and wise practical counsel prevail lest in the making we work gross injustice to certain classes of employees.

The ambitious and conservative married men are being so classified in some of the State laws that a great temptation may be encouraged on the part of certain types of employers, and especially small employers, to discriminate in favor of single men, or men whose social condition carried the least risk in the event of disability.

This is also true in certain lines of employment having to deal with women. Not that the requirements of themselves may not be fair, but that they may be inconsistent with the conditions surrounding other employments, and thus force a choice that may be unjust and discriminative against a deserving, competent class of labor.

A better understanding of the conditions by all concerned will

eventually lead to equitable laws; thus we find another evidence of the value of Safety as an asset, when through the forum of its encouragement we solve problems equally vital to the body industrial.

The first speaker of the afternoon does not require an introduction to this audience or to any other audience that has ever had the word "Safety" mentioned in its proceedings. You might as well talk about circuses and not use the word "Barnum" as to talk about safety without using the word "Schwedtman"—they go together. Mr. F. C. Schwedtman has probably served as long an apprenticeship in the question of Safety development as any other individual in the United States. He is a director and executive committeeman of the National Council for Industrial Safety, and one of the original committees through whose efforts the National Council was organized.

It is especially gratifying and fortunate that you have an opportunity of listening to him and I am not going to take up any more of his time by further interruption. I have the pleasure of introducing Mr. Ferd C. Schwedtman, Chairman of the Committee of Accident Prevention and Workman's Compensation of the National Association of Manufacturers, Springfield, who will address you on "Co-operation in Safety Work Among Manufacturers and Trade Associations."

MR. SCHWEDTMAN: Mr. Chairman, ladies and gentlemen: It is a very doubtful compliment which my good friend, Mr. Mix, has paid me. To be the "Barnum" of the Safety movement is a good deal like being a good bluffer.

However, I know the spirit in which it was meant, and I do not care what Mr. Mix called me. Whatever he did call me is a compliment.

Mr. Chairman and fellow safety workers: The safety movement is no respecter of persons. It knows no class distinction. Whatever may be our religion, social position, political conviction, or economic belief, we leave it all behind when we enter a safety meeting in the true spirit.

Who is the most useful man in safety campaigns—the best dresser, the greatest spender, the man of high ambition, social position or great pretence? Is it the best talker or schrewdest trader? No;

the most valuable man in the safety movement is he who in the true spirit of *efficient service* forgets self in thinking of the safety of others.

Efficiency in safety means *heart* service. Lip service can be bought, physical service may be trained, but the service of the cheerful heart and the helping hand, which alone can bring success to the safety movement cannot be acquired for all the gold in Christendom. Its price is conviction, yea, religion. It answers the query of the Old Testament, "Am I my brother's keeper" with an emphatic "Yes," and reasserts the golden rule of the New Testament, "All things whatsoever ye would that men should do unto you, do ye even so unto them."

It is the conscientious observance of these "new" old truths on the part of the officers and members of the National Council which has brought the Council from a small beginning to a world movement in less than two years' time. It was my privilege to be at hand during the birth of the baby; I have had the opportunity to observe the growing strength and vigor of the infant at our monthly executive board meetings. We see it today, a two-year-old youngster with wonderful strength and vitality, and I predict that the youth of today will in a few more years grasp with the strength of a giant every nook and corner governed under the stars and stripes.

Sometimes in my mind's eyes, I go further in my dreams of the Council's future. I see its influence exert a marked salutary effect upon many of the social, economic and industrial problems which at this time confront, in a constantly growing degree, all Nations of the Earth, the United States not excepted. It is a fact well known to every person of experience that most of our modern social, economic and industrial ills are the results of lack of confidence. Is it not reasonable to believe that gatherings of this kind, which should comprise persons of many varying economic and industrial convictions, bring with closer acquaintance also a better knowledge of each other's sincerity and greater confidence in each other's good intentions along other fields than safety? I hope so and believe so. But let us stop dreaming and come back to our subject—Safety.

The first and most important requirement for success in "Safety" is the right spirit of each individual Safety worker. The second requirement is co-operation. Without co-operation accomplishments are impossible in any field of endeavor. With Emerson I

believe that "All are needed by each one; nothing is fair or good alone." Only by co-operation and organization can we hope to separate the wheat from the chaff. Can you imagine this world of ours without co-operation? Each individual existence struggling with its own problems, attempting little, accomplishing less. Such a world would have no industrial problems because it would have no industries. It would have no religious question because religion would be impossible. There could be no cities, no governments. The only peace a world without co-operation might give us is the peace of the grave, not the co-operating and co-ordinating peace of the Beehive, which to my mind, in many respects, is the natural model for efficiency in enlightened industrialism. There is no room for Drones in either the Beehive or in efficient Industry. Every member must work for the best interest of the common weal along the lines best suited to the individual's ability and inclination. But for the good of all, there must be system, subordination and provision for the day of want, inability or enforced idleness.

It is only within recent years that the United States, as a Nation, has taken up a systematic effort to provide for the victims of Industry and Commerce. We are still a long distance from the goal which we must reach, but there is evidence galore to prove that in accident prevention we have accomplished in some of our Industries, in a few years, what it has taken some other countries to do more than double that length of time. Records brought out by some of our best Safety Experts indicate that in many of our large Industries we have reduced accidents from 27 to 85 per cent in a few years.

How is this done and how can this record be continued and extended so as to cover greater numbers of Industries and Individuals? I am supposed to throw some light upon this question. Being an employer and having been engaged in investigating and stimulating "Safety" principally among Employers, I must, of course, speak more or less from the viewpoint of the enlightened Employer. I want to say, however, at the very start, that without sympathetic co-operation among employees, the public and the state, Employers can accomplish little and this to my mind is equally true of any other one force whether it be the public, state or employee. In other words, organization of each factor in the safety problem, while very important, is secondary to proper co-operation of the various factors with each other.

With this qualification, I assert without fear of contradiction that Employers and especially large employers, are the most important force in the safety movement. Those countries have accomplished the best results in which employers or employers' organizations have worked out and administered National Systems of Accident Prevention and Workmen's Compensation under Government supervision. Speaking more particularly of our own country, records galore prove that many of our large Industrial Institutions inaugurated elaborate and efficient systems of accident prevention and relief many years before the first state enacted Workmen's Compensation Laws. Many of these shop relief systems go much further than our present laws in providing for sick and invalidity relief, and in quite a number of cases for old age pensions. It is a matter of history that many sick, injured or superannuated employees of private corporations have been better provided for than employees of the various states or the Nation.

The principal trouble with voluntary private systems of prevention and relief was lack of uniformity and want of extension to all employers, especially the smaller shops. Thousands of enlightened employers have, on account of these reasons, aided in every way possible the passage of equitable workmen's compensation laws and have welcomed efficient state co-operation and supervision of accident prevention. This attitude of enlightened employers is principally based upon two considerations, namely, first, "Humanity." Employers generally appreciate that Safety is an important phase of the great National Conservation movement, and that it is far more important to preserve the Lives and limbs of our people than Forest, Field and Stream. The second consideration is "Efficiency." Much as the careful manufacturer is subject to his careless neighbor's fire hazards, so he is affected by his careless neighbor's actions in safety matters because in the long run the whole industry and not the individual manufacturer will be blamed for its accidents ratio.

My arguments and conclusions regarding the employers' attitude are based upon some ten thousand letters received during five years from American manufacturers, large and small, engaged in almost all industries and located in almost all states of the union. Most of these letters express also a great desire to co-operate in accident prevention and equitable compensation for injured workers.

For five years now this co-operation has gone on among the

members of the National Association of Manufacturers, which organization I have the honor to represent at this meeting. A special committee having charge of these matters has expended large sums of money for education, lectures, motion pictures and slides, factory inspection by its own safety experts, safety bulletins and special correspondence. Other Employers' Organizations have quickly followed our lead with similar work of the National Founders' Association, the National Metal Trades Association, the National Electric Light Association, the Millers' National Association, the Lumbermen's National Organization, the Detroit Employers' Association, the Illinois Manufacturers' Association, the Indiana Manufacturers' Association, the New Jersey Manufacturers' Association, the Kentucky Manufacturers and Shippers' Association, the Iowa Manufacturers' Association, the Rochester Chamber of Commerce, the Milwaukee Merchants and Manufacturers' Association, and many others. The result of the activities has been the employment of many safety experts by organizations and corporations, a continuous and strenuous safety campaign among employers and employees and a remarkable reduction in accident rate.

A number of the organizations named have gone further and have established their own workmen's compensation insurance systems upon a mutual or interinsurance principal and many claim wonderful results both in reduction of accidents and reduction in insurance rates.

As time went on the independent activity of many employers' organizations brought great benefits, but naturally also a great deal of duplication. In order to prevent this duplication and attain greater efficiency, a selected number of the largest National Employers' Organizations have established what is known as a "conference board," which board consists of two representatives of each affiliated body. It meets often and supervises all safety efforts of each association represented. The "conference board" eliminates duplications and designs and standardizes safety devices. It manufactures safety devices and sells them at cost and brings to each organization the best knowledge and ability of all. The organizations co-operating in the conference board so far are the National Founders' Association, the National Association of Manufacturers, the National Metal Trades Association and the National Electric Light Association. While small in number of organizations, there

are covered in these bodies more than five million employees. Some of its work can best be judged from the conference board's exhibit located in another part of this hotel. There is no limit to the number of employers' organizations which eventually may co-operate through this conference board, nor is there a limit to the good that will come to each organization through this co-operation.

Let me in conclusion point out the relation of the conference board to the National Safety Council. Far from duplicating the council's work or competing with the council's efforts, the conference board specializes in "industrial" safety, the Council covers broadly "public," "individual" and "industrial" safety. The council establishes through its splendidly organized central office and through its "local" councils the co-operation of Individuals, local bodies and corporations interested in every phase of safety work, the conference board strictly limits itself to Employers or Manufacturers' organizations, and even these it will admit only slowly and one at a time so as to keep its efficiency at the highest point. The results of the work of the conference board are placed at the disposal of the council and its members and most of the National Organizations comprising the Conference Board are members of the Council.

It is plain that Employers must always have their special safety problems which they can and must work out for and by themselves, but this duty is not going to lessen their interest in and co-operation with the general safety movement through the National Council and its branches.

THE CHAIRMAN: Next on the program we are fortunate in having another very active worker in the "cause" in the person of Mr. M. W. Alexander, who has probably devoted as much time to the subject as has Mr. Schwedtmann—perhaps more. I shall not compare them; but I know they have fought shoulder to shoulder for many years and that they are active in the same organization. Mr. Alexander has the honor of being the secretary of the Conference Committee, and is also very active in the state of Minnesota, developing the Workmen's Compensation Laws in that state and dealing with other subjects of a sociological nature. I have great pleasure in introducing Mr. M. W. Alexander, of the General Electric Company, West Lynn, Mass.

Mr. Chairman, Ladies and Gentlemen: The chief plea of the meeting is for co-operation of all agencies that aim to safeguard workers against personal injury in employment. To this sentiment we each say yea and amen. But the spirit of co-operation must not stop with the mere verbal pledge to join in a movement and help it along; it should extend beyond it to practical co-operation and constructive work.

It was stated this afternoon, that much is being gained when men and women interested in safety work put their feet under the same table around which safety is being discussed. I wish to add that when we reach and all openly spread our safety plans on the safety table for the common good, the best step towards the safety millenium will have been taken.

As an example of the opportunity for co-operation, and of the good already accomplished through co-operation, reference has been made to the work of the Conference Board on Safety and Sanitation. It may therefore not be amiss to outline briefly the work of that Board.

The Conference Board on Safety and Sanitation was organized in March, 1914, when representatives of four National Employers' Associations met at Buffalo and decided to pool their efforts for the safety and health of their employees. While the work of the Conference Board is a practical expression of co-operative effort among employers, the resources of the Board embrace the suggestions and constructive ingenuity of thousands of managers, superintendents, foremen and engineers in practically every industry in all parts of the United States and Canada. More than five million employees are employed by the members of the co-operating associations and many valuable suggestions for safety and sanitation in employment have come from these employees. The vast experience of this great force of men is at the disposal of the Conference Board and their experts, who are free to avail themselves of it for the benefit of all.

The co-operative associations, each of which has its own safety or accident prevention committee, find it possible to bring about effective co-operation without interference with their own rightful function. While each has its peculiar safety problems and is best fitted to study and solve them, there are many safety problems that are found to be practically universal in all employments and can

most effectively be solved when the expert safety talent in each association is made available to all.

Electric light, for instance, is used in practically all industrial establishments. Any rule therefore that the National Electric Light Association might promulgate for the safety of men who handle electrical circuits or apparatus ought to hold equally good for all men who are subject to similar hazards whether or not they or their employers are members of that organization or are engaged in the electric light industry. Elevators and cranes are also used in practically every shop and their safe operation is equally important to all industrial manufacturers and to their employees. Revolving pulleys, shafting and machines of one kind or another present certain hazards in whatever enterprise these mechanisms are employed and call for practically uniform treatment.

It is obvious therefore that if certain protective measures against hazard in an employment in one community prove effective, such measures can be depended on to provide good protection in similar employments in other communities as well. In fact, this uniformity of protective effort has a great advantage, in view of a tendency of many employees to shift from one employment to another.

When an employee has sustained an injury, it is of first importance that proper treatment of the injury be promptly applied so that suffering will be lessened, serious consequences avoided and the employee restored to his full usefulness and happiness as soon as possible. This implies that the best first aid treatment of injured employees should be found and uniformly applied in all employments.

These references may be sufficient to show that there is a common basis of co-operation for safety work among all employers, and it would seem that employers have a common duty to support such co-operative efforts, the results of which will prove beneficial not only to themselves but to the general public of which they form a part.

The Conference Board considers all questions of safety from the standpoint of the greatest good to the greatest number. The knowledge of many men with large executive experience and ability in combating industrial hazards is applied to each problem. The merits of proposed methods or devices are carefully investigated

and discussed and where possible tests are made in practical service, the judgment of a large number of men is secured, so that when finally recommendations are made by the Board, they can fairly be assumed to represent ideas that are both meritorious and workable.

The Conference Board has gone a step farther. In order to make it easier for employers to follow the recommendations of the Board particularly in respect to the purchase and installation of safety devices, the Board has undertaken to supervise the manufacture of such approved devices or articles as cannot be readily and economically obtained by single employers. This not only insures that the devices are made right but by making them in large quantities they can be made and distributed to employers at low prices. In this manufacture and distribution the Board has no commercial aim; it only desires to be of service to employers and their employees. The articles are therefore sold at practically their cost price, and although the co-operating associations are furnishing the money for doing the work, all approved devices may be purchased by any employer on the same price basis, whether he is a member of the co-operating associations or not. All articles or literature approved by the Board bear the N. A. S. O. (National Affiliated Safety Organization's) mark.

The Conference Board has been in existence for only a short time, yet its method of work and the work already accomplished indicate clearly that it has a useful and rightful place among other agencies working in the same or similar fields. The great good to the Conference Board and to other agencies of similar aim will come by co-operation among all of them in all matters that touch the common interest. A specific case in which such co-operation can play an important part is the proposed booklet on Standards now being considered by the Standardization Committee of the National Council. It must be for the best interest of all if the Committee of the National Council would work closely with the Conference Board or any of its constituent members in order that when these safety standards are issued they will more completely meet universal conditions and thus command the approval of all. For this and similar constructive work on safety lines, I am authorized to pledge the heartiest support and co-operation of the Conference Board as a whole and of each Association represented in it.

While the Conference Board operates independently of the Na-

tional Council, the Council and the Board are inter-dependent bodies, and each would feel free to call upon the other for help and advice. In this way duplication of effort will be avoided and the value of the work be multiplied.

THE CHAIRMAN: When a cause has such capable and enthusiastic representation in its ranks as Mr. Schwedtman and Mr. Alexander, there can be no doubt about its success, and we are very fortunate to have the teaching which they have given us along the line of Co-operation and Standardization of Protection.

Mr. J. C. Parker, Mechanical Electrical Engineer, Rochester Railway & Light Co., Rochester, N. Y., was to give a further discussion on this subject, but he has been unable to be present and has sent a written communication, which Mr. J. B. Douglas, president of the Philadelphia Safety Council, will read. I have pleasure in introducing Mr. Douglas in lieu of Mr. Parker.

MR. J. B. DOUGLAS: Mr. Chairman, ladies and gentlemen: In the absence of Mr. Parker—and if I may enjoy your indulgence—I shall read to you his highly interesting discussion of Mr. Schwedtman's inspiring address.

Mr. Chairman and Gentlemen:

I am glad, very glad that Mr. Schwedtman has struck the altruistic note in his discussion of the co-operative phase of safety work—particularly glad because it seems to me that this initial note and something of the glimpse at future conditions contains the element of safe prophecy.

Whether one believe or not in a theory of physical evolution, there is pretty definite historic evidence that our moral standards have come to us along the lines of natural selection and adaptation to environment. The history of the past in the development of moral or ethical principles is of signal value in foreseeing the future.

Initially, selfishness indicated to the individuals in the social group that theft and murder were bad—actually for the victims, potentially for all. First the individual sought to screen himself against the misfortune of such event, and then, perhaps, some of the more enlightened began to discover that a general code which tabooed murder or theft was good for the body as a whole. This

code gradually crystallized into law, sympathetically received by the more progressive element and forced by the common sense of the majority on the reluctant, and then, after a few centuries of operation under such a law, it passed into the very moral fibre of our race.

So it has been with all the homely fundamental developments of society, and so we find it today, in the opening years of our twentieth century, in the matter of safety and sanitation.

The beauty of such a moral development is that however much we attain, we never reach perfection. There was nothing wrong with the appropriation of what one had not himself created when man lived an individual life roaming through the forests or over the untenanted plains, but once the individual came into contact with a second man, he, by that act, developed the whole range of elementary social relations. As the social group became larger and contact more intimate and at more varied points, additional responsibilities developed between one man and the next. We have seen, even in the last twenty years, many illustrations of this principle. Ethical honesty in retail trade has, by virtue of the closer relations of society, demanded one-price selling, and man may not run his motor car so fast in the city as in the open country because in the former place he is in closer social relation with his fellow passenger on the highways; in the wilderness I may revert to type and make night hideous with what noise I will, while in the city flat I exercise my vocal organs or many vicariously operate a talking machine at the risk of dire vengeance by my fellow cliff dwellers.

In a closely similar fashion, the dawn of the industrial era brought man after man into intimate contact with his fellow workers and extended the close relations essential to family harmony into the factory; increasing social intimacy in the process of production brought an increasing appreciation of social responsibility of the employees one to another and mutually between these and the employer.

Then, Mr. Parker, continues, from both sides of the economic equation simultaneously and though somewhat differently expressed, yet with the same motive of selfishness, came the safety movement; the employee recognizing his rights as an individual and the employer recognizing the cost of accident—to himself be it noted—sought to eliminate the causes. Some unfortunately were blind

to self interest and so the common sense of the majority is today becoming crystallized into law, but meantime the self-interest of the more advanced has evolved into the more altruistic and noble recognition that each man in society owes an obligation to the rest of the group that must transcend—nay, even, at times run counter to—self-interest.

So it has come that the employer, interested at first in safety work as a protection to his pocket, next as a stewardship over the lives and limbs of those whom the fortunes of economic fitness has placed under his charge, has finally sought out other advanced spirits like himself for the purpose, first, of conferring as to means to effect the end sought, and secondly, for the greater and nobler purpose of carrying to others the same conviction that he has himself received.

And now this work may not stop. Just as crass selfishness formed trade associations to prevent destructive competition and then moved up to the higher plane of a fair deal to the purchaser, so these co-operative organizations for safety work cannot stand still at the threshold but must go on and on in every form of welfare work, sincerely, mind you, and in the new light of unselfish ideals.

It is but a short step from work for industrial safety through industrial sanitation to the extension work which shall carry the safety spirit and the love of that cleanliness which is close to Godliness into every period of a man's life. Then, when accident and disease have men minimized, will come the problems of caring for the results of the residuum of misery among those who, through misfortune, ignorance, or fundamental inability, have been unable to care for themselves; and then by another step, we will learn to provide means of protection against the sad results of that inevitable weakening of the faculties in old age.

A few of the more progressive employers see that it is their interest and many of the more radical employees are sure that it is their right, that the burden of relieving distress in these various lines fall on those who have had entrusted to them the stewardship for the welfare of society—on those who, through the accident of birth or training, through the fortune of having inherited capacity for doing things, have also had laid upon them the responsibility for doing these things, not for selfish gain alone but in the interests of the race.

Trade organizations must, if they will do their duty, see that the common sense of the best will govern the self interest of the less progressive.

There can be no question, gentlemen, that the trend of our elaborate social organization is to equalize the opportunities in life and to help men—even against their own desires—to provide against those misfortunes which we call accident and for the inevitable period of industrial unfitness. Think what we will of this tendency, it is a fact, and will express itself ultimately in legislation just as surely as the law-making bodies have in the past few years enacted statutes that have brought us thus far along the line of limiting hours of labor, surrounding employment with certain safeguards, compensating for industrial accident, providing definite hours of leisure, and the hundred and one different things that our state bodies are now requiring.

It is devoutly to be wished that, if the burden of such laws must fall on the industries, as big a percentage of that burden as possible shall be converted to the use of those for whom the laws are enacted. Our great organizations of employers can do no better work than to insure that their own employees derive a maximum of benefit from the compulsions which the statutes place on the employer.

If we must spend one, ten, or a hundred thousand dollars in the building of a factory prescribed by law, we should surely strive that one, ten, or a hundred thousand dollars of that amount is spent for the benefit of those of our own family rather than in frills and furbelows which benefit nobody, but rather exhaust the wealth of society, merely because laws have been inexpertly drawn.

Employers might as well take counsel from the past and recognize that these things will come, and help to get them done intelligently.

As two heads are better than one, so the aggregate judgment of business men in chambers of commerce, manufacturing organizations, and professional associations can crystallize the collective experience of our great industries and, honestly meeting the demands of an increasingly acute public conscience, see to it that steps are taken, in the first place, which will make legislation not a mandatory statute but an expression of what has be-

come the common standard of protection, and that this recognition of facts accomplished shall be one hundred per cent. efficient.

THE CHAIRMAN: I have the pleasure of introducing the next speaker, Mr. J. A. Robertson, who will speak on the subject of "Effective Co-operation Between Employers and Employee." I am reliably informed that Mr. Robertson is Scotch—that he keeps the Sabbath and everything else he can get his hands on. A would-be mayor of Rochester, he could also hold any other position in that city if he but said the word. (Applause.) He is the real "noise on safety" in Rochester, and is Manager of the Camera Works of the Eastman Kodak Company. I have pleasure in introducing Mr. Robertson.

GENTLEMEN: When your worthy president wrote me asking me to prepare a paper for this meeting, I immediately wrote back and refused. I told him I had done that once for the Rochester Chamber of Commerce and made a failure of it. This address was to be given at a noon luncheon and the afternoon papers published the address which I had written. Going home that evening, I met a friend who remarked, "Say, I liked your speech a whole lot better than the one the fellow wrote up in the newspaper." This is the reason that I refused, for I could not follow the text that I had written.

Your Chairman here has named Mr. F. C. Schwedtman the "Barnum of the Safety Circus," so I prefer to be the "barker" rather than the "press agent." Had I written a paper on the subject of "Effective Co-operation Between Employer and Employee," I would have outlined some fundamental principles which I believe are necessary. The time allowed me is short, you are all tired, and I am not prepared to enter into details, so I am going to cite rapidly just a few things that we do in the Eastman Kodak Company which we feel have increased the efficiency of our employees and make their feeling and attitude towards us of benefit to themselves and to us.

Attitude of Employer. I have heard at your Round Table meetings the question discussed so many times about the difficulties some of you have in convincing the management that this safety work is a good thing and that it is necessary. We have not experienced that difficulty in the Eastman Kodak Company because Mr. East-

man, Treasurer and General Manager, has been heartily in favor of this movement from the start, and has gone one better every time we suggested anything.

Organization and Education. The second gun which I want to fire is on Organization and Education. I shall not dilate on this subject. It has been discussed here three years; and neither our organization nor method of education is much different from dozens of others you have heard described here. We may have one exception. We believe we are in a better position, and naturally we should be, to produce moving pictures, photographs, and lantern slides, and if it were not that this meeting has lengthened out and you are so tired, we would run our new reel of moving picture film for its premier performance, entitled "Carelessness and Caution." It was made in our own plant by our employees, and I knew nothing about it until it was almost completed. This is a sample of co-operation.

Welfare Fund. Three years ago the Board of Directors set aside a fund of \$500,000 to be used for the benefit of our employees. The following year this was increased by an additional \$500,000. The revenue from this reserve fund goes towards old age pensions, taking care of sickness and other causes which are brought to our attention. Each case is considered on its merits. We have adopted no plan or general form of pension system because we know that we are only feeling our way. So we are treating each case individually, and thereby learning the circumstances underlying the human elements in each case.

Wage Dividend Plan. This scheme was submitted to the stockholders in 1911. They voted an appropriation of approximately half a million dollars as an experiment for a co-operative wage dividend proposition. The plan outlined was as follows: Six per cent on the preferred stock of the Company was considered a fair return for a good safe investment. The holders of common stock were considered to be entitled to a return of 10% on their speculative investment. Extra earnings in excess of 10% are results due to the ingenuity and ability of the management, capital invested, and co-operation of employees. A scheme was mapped out whereby a wage dividend would be paid to employees, based on the extra dividends paid on the common stock. The result is this: Em-

ployees who have been in our service one full year receive, or have received for the last three years on the first day of July, two and one-tenth per cent of their annual earnings. Those who have been in our employ two years receive four and two-tenths per cent up to five years, when they receive ten and a half per cent of the average annual earnings for those five years. The result is that on the 1st of July, 1914, seventy per cent of our employees participated in the wage dividend. It has increased the permanency and efficiency of our working force, and their interest in the success of the Company.

Compensation. Two years before the Compensation Law went into effect in the state of New York, we cancelled our liability insurance and adopted a voluntary compensation plan. It was not quite as liberal as the present New York State Law. We paid fifty per cent of wages after the first week and made our own adjustments in cases of accident, total disability, or death. This resulted so satisfactorily to the employees during the entire two years, that of approximately 7,000 employees only two took legal action against us. One of these was non-suited, and the other settled through his lawyer for half of what we would have paid him voluntarily if he had not started action.

Suggestion System. Our suggestion system has been in effect for a number of years. We have made changes from time to time, and the only difference in our system from others is the way we put it up to them. We tried a prize plan, giving awards at the end of three months, six months, or a year for the best ideas suggested during that period, but the scheme was handicapped because the bright employees who were fruitful in ideas would place a suggestion and then wait until the next prize was awarded. Often the same employee won a number of succeeding prizes; then the other fellows thought it was favoritism. That fellow was getting prizes every time. We woke up one day and changed our method. We said, "Here, we are going to cut out the foremen and superintendents from any competition in this; we will take care of them in another way." We put it up to the workmen. We sent them a letter and said, "You will find suggestion blanks in every one of your departments with a perforated tab on the end, on which you sign your name. That comes directly to the office of the manager of the plant. It is assigned a number, acknowledged, tab torn off, and the suggestion referred to a committee. After the committee has

taken action (if it is a safety device or improvement in production) the amount of award is determined. If the suggestion applies to reduction in cost of production, the cost of equipment necessary to make the change is estimated. The saving on our annual production of that particular article is then figured. It goes to the manager's desk with recommendations of the committee and voucher attached which the manager signs, together with a letter saying, "Your suggestion so and so has been awarded a prize of ten dollars," or whatever the amount is. "You will receive same by calling at the Cashier's desk." This has resulted in a continuous flow of valuable suggestions.

Health and Sanitation. Our employees have been taken care of by outside medical attention ever since we adopted our voluntary plan of compensation, but beginning the 1st of April, 1914, we have employed our own medical staff. Since that time we have examined all new employees and about half of our old employees. We encountered practically no opposition, but before we started we assured them that no one who had been in the employ of the Company would be discharged on account of defects discovered by physical examination. If it is a contagious disease that would interfere with other workmen, we give them medical and sanitarium treatment free. If it is a minor ailment, we call their attention to it, advising them to see their family physician and expect them to come for re-examination at stated periods. We are putting the proposition up to them on the most humane principles. We are trying to educate them that this is for their benefit, and new employees which we are bringing in we know are physically fit.

I do not know if I have exceeded my allotted time, but I have one thought to add in closing. The Safety movement is acquiring wonderful success of which the last three days' meeting is an evidence. Why is it? Because we finally found one subject which is to the benefit of both employer and employee on which we can agree. Now, there must be a lot of things, if we get together, in our industrial structure on which we can co-operate, and I thought as one of your local labor leaders was talking here this afternoon, if the representative firms in this assembly could get together with the labor leaders and find out at a Round Table conference just where our differences of opinion are, and when we agreed on a thing and said, "Here is what we want in the law,"

and asked them to put it in the law, there is no human politician would dare oppose it in the law. (Applause.)

We have learned in our industrial development the co-operation of capital, but we have not yet learned how to incorporate labor. The small stockholder works in co-operation with the large one because he receives the same percentage of profit from his investment. When we can work out some scheme whereby the laborer, the workers, I mean, from the general manager down, can participate in proportion according to his ability and benefit to the organization as the small or large stockholder, then we will have our working men electing one or two directors on the Board of Directors, and the general manager will listen to their advice with the same earnestness and the same consideration he listens to his sales manager, traffic manager, or manufacturing manager. (I thank you.)

THE CHAIRMAN: The next speaker, Mr. L. B. Robertson, is the general attorney for the Ford Motor Car Company, and a director of the National Council. He is an enthusiastic worker, and one who has done a great deal to place Detroit on the map in Accident Prevention work. I have pleasure in introducing Mr. L. B. Robertson.

Mr. Chairman, ladies and gentlemen: I think, as a matter of fact, why cousin Robertson didn't write a paper was because he would have had to submit it to me and I might not have agreed with him, or might have given a better address than he, so that I would have nothing to talk to, so far as the discussion is concerned. I will accordingly take only a very few minutes in discussing some of the questions that have been raised here.

It may not have occurred to all of you that this "awakening conscience on safety" came at about the same time that Compensation Laws were being adopted in a great many of the States, and that when you touch a man's pocketbook—the employer's pocketbook—you are beginning possibly to awaken his conscience, if he has one. The fact is, that within the last few years this question of workingmen's compensation—compensation laws, the bearing by the industry of the social burdens, the financial burdens, of the accidents, of the industry, instead of the public taking care of the effect of the injury caused to the workingman, has created a great awakening in the conscience of the employer, and has brought

about what we are having here today, and similar movements in safeguarding and taking care of workingmen, in co-operation with workingmen in keeping down accidents, because the keeping down of accidents keeps down our cost.

Now take it in our own State, after a great deal of effort and work we passed a compensation law, the immediate result of which was an increase by the stock insurance companies of rates to the extent of from three, and in our own industry to five and a half, times the liability insurance rate we had been paying. Now very few employers, up to recent years, anyway, have been accused of being philanthropists. The main idea seemed to have been to accumulate dividends and pay them out to the stockholders, getting the most possible from the laboring men with the least possible recompense. That came about through the natural laws of supply and demand in wages and in labor conditions.

The result of the Compensation Law was the immediate awakening of the public conscience in the State of Michigan as evidenced by the employer getting busy in cutting down his accidents, in conserving his workingmen, and in the many activities which have led to a universal co-operation in this movement.

There have been, with the exception of a few specific movements, none so widespread as the Safety movement. We immediately got together in our State and we, I am glad to say, framed our compensation law just in the manner that has been suggested here, by putting our feet under the table with the officers of the labor federations of the State of Michigan, with the laborers who were not affiliated with labor organizations—non-union men—with the different industries, with the insurance men, and framed a law which met with, so near as a law of that kind could meet with, the unanimous approval of all interests. The result has been—the law has been working for two years—everybody is satisfied and bringing about a co-operation between the men themselves and the employers that we never had in the State of Michigan.

Now in our own industry previous to two years ago when our compensation law went into effect, the first of September two years ago, we had no systematic safety organization. Our business was conducted the same as that, I presume, of all other manufacturers and industrial corporations, by going to the insurance company and insuring ourselves. A man gets hurt. We wash our hands of

him. Mr. Insurance Man settles for the least possible amount he can settle, and takes the highest possible premium out of us that he can get. The immediate effect, then, I say, of awakening our conscience was the organization of a compensation department—the cancellation of all of our liability insurance, of getting down to the man-to-man proposition with our workingmen; the reduction of the cost to our company to a figure that amounted to about the same as the insurance premium that we had been previously paying, and the saving of upwards of \$80,000 in money in premiums that we would have paid if we had not had an awakening of conscience, if you call it that. That was followed up the second year by further organization of our safety forces and a further saving. The insurance companies' consciences have awakened to the movement the last year, and have reduced their premiums. Don't understand that this is an attack on the insurance companies, because it is not, but it is one of the causes that has led to this movement; the insurance companies have been just as anxious and have co-operated with us, even though we do not carry their insurance except in a public risk way, in every way to reduce these accidents, and assist in the safeguarding and the cutting down, because it was their own salvation to get these premiums down where the companies would continue the insurance. The result was the reduction of our insurance rate; instead of five and a half times the previous rate to about two times the previous rate last year, and the result of our efforts in co-operation with our workingmen in building up a system of safety first has been the cutting down of our accidents the second year under the compensation law 54 per cent, and a corresponding decrease in compensation.

One speaker made some reference to these compensation laws, possibly causing a discrimination against married men, on account of the larger amount of compensation necessary to be paid. Speaking for our own company, and also for all the companies of which I know—and I know most of the large companies in Michigan—that condition has not been true in any possible particular. The employment of men, the continuation of the employment of men, at least by our own company, has worked just in the opposite direction, and if any discrimination has been made it has been made in favor of married men on account of economic principles and the economic necessity of the married man saving money, saving

his wages. This same discrimination has been made in favor of married men in our own profit sharing, and an unmarried man, under the age of 22, unless he is the sole support of a mother or a blood relative, is not eligible to profit sharing. And in the employment of men, even when the compensation is larger and the profit sharing is larger, the married man is given preference and especially in these hard times, where a great many men in Detroit as well as elsewhere are out of employment. I agree with some speaker who said that there was a great deal of selfishness in this movement, and that we may be philanthropists, but to a still greater extent we are interested in keeping down the attendant cost of industrial accidents.

I won't touch on the wage dividend matter that was discussed by Mr. Robertson or of our own profit sharing plan. Profit sharing distribution is a subject by itself, and it would take too long to even go into it in a small way.

The whole trend, or the whole underlying principle, in our judgment, in the co-operation between the laboring man and the employer is contained in the golden rule, with which I was very much surprised to find our friend so familiar, to "do unto others as you would that they should do unto you," or words to that effect, and when we put that into daily operation; when we use that in our factory and in our organization and instead of the officers of the company being officers and sitting up in a fine office, behind a fine desk and not knowing their men, even though they don't know them by name, but when they get down to them, and give them a portion of their profits and make them feel that they are interested in our business with us, and that their interests are ours, we are going to get this co-operation that we can get in no other possible way. I thank you, gentlemen. (Applause.)

THE CHAIRMAN: Changing the program somewhat, it is intended now, on account of enforced departure of some of those who were present to have a reel entitled, "Steve Hill's Awakening," a Safety First story prepared and written by Mr. M. A. Dow, general safety supervisor of the New York Central Lines. A demonstration will follow the pictures.

The proceedings of the convention were brought to a close by the moving pictures and mine rescue demonstration.

MISCELLANEOUS DIVISION—BANQUET SPEECHES

The proceedings of the Third Annual Congress of the National Safety Council were brought to a close by a banquet at the Hotel La Salle, on Thursday, October 15, 1914, at 7 p. m.

Two hundred and twenty-five sat down to dinner, and following the dinner, the proceedings were opened by President R. W. Campbell.

THE PRESIDENT: Ladies and gentlemen, members of the National Safety Council and friends: The National Safety Council is this week one year old. At the banquet at the joint meeting a year ago with the Association of Iron and Steel Electrical Engineers a custom was started and it has been our desire that we continue it at this time. While it may be a formal or business matter, it is the plan to announce the election of Executive Committee Men and Officers for the ensuing year at the annual banquet.

Your board of directors saw fit to endorse the action of your former Executive Committee by returning it in its entirety to office. In addition filling the three new memberships in the Executive Committee created at the annual meeting and by the board of directors subsequently thereto by the following named persons:

Mr. H. W. Forster, Philadelphia.

Mr. J. A. Robertson, Rochester, N. Y.

Mr. A. W. Whitney, New York.

Your Executive Committee so elected by the board of directors in its turn has seen fit to give a further vote of confidence to your former Officers by re-electing them in their entirety. (Applause.)

A second custom, it was decided, should be established tonight, which should be the announcement of the names of those who have been elected to honorary membership during the previous year. The Executive Committee must practically unanimously elect any one to Honorary membership. It has seen fit during the past year to make three selections for that position in our organization which we hope will some day be honorable above all others. It has chosen three men, two of them in industrial pursuits. It has chosen the other in Public Service. The first two men with reference to the

fact that they, by broad minded policies of sympathetic and hearty interest in the workmen who were under them have done so much in their several industries that it has made possible a very widespread safety movement. Those men are Elbert H. Gary, chairman of the United States Steel Corporation and W. A. Gardner, president of the Chicago & North Western Railway Company. (Applause.) The third gentleman was selected in consideration of the fact that for many years he has occupied important Governmental positions and through his office as such he has probably done as much towards promoting safety in the mining industry as anybody in the whole nation. I refer to Doctor J. A. Holmes of the Bureau of Mines. (Applause.)

It had been the hope and the earnest desire of your Executive Committee that it might announce to you this evening the name of another Honorary member; one who by personal association with all of you is very dear to you; one who by virtue of that which he has done individually and officially is entitled to the office or honor, if any one is. His natural modesty, however, and the fact that he has been associated very actively in the work of the National Safety Council made him request us not to confer this honor upon him while he was in the ranks, at least. We would have liked to have done so, but we have deferred to his wishes in the matter. We did not feel, however, that we could let this opportunity go by without letting you know that we would have liked to have done it if Mr. Lew R. Palmer would have permitted it. (Applause.)

I do not know whether you care to hear anything more during this congress from me or not (Cries of "Go on"), but I presume I shall have to fulfill the function of the officer who turns over the meeting to the toastmaster by saying a few preliminary words at least.

I have been impressed with one or two things very much during this congress, and one of them has been the greatness and the magnitude of the movement in which we are all so much interested. It seems to me that its greatness has developed wonderfully in the past two years, and that its magnitude is ever increasing. The sympathy and the interest that is being evidenced here and has been evidenced here during the last few days of the congress—and the something underneath it all, something that means more than that which is upon the surface, which we have all felt but can

hardly describe make me believe more and more that we are in something that is very big. But it is great for many other reasons, as well.

The Safety movement has characteristics that no other movement or no other activity seems to possess. It touches every phase of our life at some place or other. It is not like ordinary things that are just square, but it is round and it touches everywhere. There are very few businesses, very few professions where you may have the visions and the ideals along with them and forming a part of them. It is something to be very pleased about, I believe, gentlemen, in that you who are engaged in this work may feel that while you have a business you yet have something ethical. While you may be engaged in a profession and in daily labor you are yet in something that is even higher and nobler.

A thought has been in my mind for some time. It has been suggested to me—as sometimes good thoughts are—by holy writ. You may remember—those of you who are familiar with that book—that it describes somewhere in it the building of a wonderful structure, in which there were thousands and thousands of workers engaged, which took many years to complete, where there must have been marvelous planning, and where there must have been co-operation to the very highest degree in the forest, in the quarry and in the shop, for it is recorded that while the building was being erected, there was neither hammer nor axe nor any tool of iron heard. It had a foundation of great and costly stones. The building itself was of stone and cedar and fir and olive; strong and staunch in every particular. The walls were covered with carved figures of cherubims, palm trees and opening flowers. The walls inside and out were overlaid with pure gold. It was a temple set upon a high hill above the city of Jerusalem, and it was a temple dedicated to the worship of our God. It has occurred to me that we in this day and generation are engaged in the building of a structure. There are thousands of workers engaged in the task. It has taken some years and it will take many more to finish the structure. We are hoping that it may have been marvelously planned. We know that there is a sure co-operation on the part of all those who are working in the field, for we know that with quietness and sureness and without noise it is going forward steadily and so rapidly that we do not half realize the progress that

it is making. Its foundation has been laid in a great and costly need and is composed of economies and efficiencies. The building is being composed today of energy and zeal and loyalty and interest and intelligent service of brain and hand and heart; strong and sturdy elements these.

The walls of our structure are being covered with carvings of kindness, of courtesy, of consideration and of thoughtfulness; wonderful decorations these.

But above all are the walls inside and out, being overlaid with the pure gold of humanitarianism and brotherly love. (Applause.)

This should be when completed a wonderful structure, a temple dedicated to the preservation of human life and limb and the elimination of waste and suffering and sorrow; one that may stand on the hills of time, bringing peace and prosperity, harmony, health and happiness to all people.

This temple of safety will surely be completed. Let us hope that ours may be the time in which, and ours may be the hands through which this temple may be erected.

I have one other function to perform and that is the introduction to you of one who will preside over the rest of the evening's work (because it is work for us here), and I am exceedingly pleased that I am to have the pleasure of introducing our present toastmaster to you—pleased for personal reasons, and others as well.

I have known our toastmaster for a great many years, and have been associated with him personally in business. I know what he has done for the safety movement. I know what he has stood for in the early and pioneer days of our movement, and I know how he has labored in it. I am of the opinion that our toastmaster for the evening might be well called "The Corner Stone of our Structure" for Mr. Haynie was the first Chairman of the first organized Safety Committee in the United States. (Applause.)

Above all, the idea was his; and to us who realize that Organization and Organized Educational Work is the best of all practical Safety Work, we can appreciate the service that Mr. Haynie has performed for us in the Safety Movement.

Ladies and Gentlemen: it gave me great pleasure indeed to present to you as our Toastmaster, Mr. William Duff Haynie. (Applause.)

The Toastmaster, on taking charge of the meeting, said:

"Our guests, ladies and gentlemen: Praise from a friend is sweet, and I have drunk a deep draught of that sweetness tonight. If, in my years of work for Safety, I wove a mantle which were worthy to be worn, it has fallen on broader shoulders, on a younger heart, with the ability and the deep Christian faith to carry the work further than I could ever have done. Yet, for the President of a great national movement for the prevention of accidents, he has taken a wonderful risk tonight. The idea of introducing me and telling you that I have had things to do with this Safety Movement. Why, you can imagine what a flood of recollections and experiences that brings up to a man who put fifteen years of his life into it. But I have a Gatun dam grip on the flood, and you will get nothing but, perhaps, the spill-way necessary for "Safety."

I will hit only one or two high places and then go about my business.

The Safety Department of the Illinois Steel Company, with whose work I was connected, began its work of protection of dangerous places and dangerous machinery in the year 1894. It began its work for the education of its superintendents, its foremen and its employees in the work of safety in 1896, and had the official sanction of the company in January, 1897.

As I look back over that past which your president has so pleasantly referred to, it does not seem to me that I, personally, did a great deal. There are two men here tonight who were on the job all the time, working with a loyalty, with a steadfastness of purpose and with what President Wilson calls a 'vision' that I have not seen surpassed. Captain Smith of Joliet was with me from the beginning, and Mr. Young of South Chicago was with me for the greater part of the time (Applause).

I would not be fair to myself if I denied myself the pleasure of this truthful statement. And it is a pleasure to me to remember what they did and to know that they are still doing the same good or even better work than was done in those days.

Now I skip a lot. I do not know what it would have been, but I am going to skip it. There would have been something.

As I look down the program I don't see that anybody has been told off to pay any attention to the women, so that is my lot.

(Applause.) I will attend to that myself. And it seems to me that this meeting where you are gathered from all over the country for the work of safety is one which it is very fitting women should attend; and that it is one they should be greatly interested in.

Here in Illinois—you see I have got my watch out, but that doesn't mean anything; it doesn't mean that I won't talk as long as I have the nerve to, and my nerve is good (Laughter)—here in Illinois women can vote. It is a right which was not lightly won. It must not be carelessly worn. If you take it with its duties and its responsibilities there is no telling the great good which you may do for humanity and for the public.

I think Municipal law might be broadly classified under two heads: The law of property and the law of life. (We call it "life," though it might be better defined.)

Now, so far as the law of property is concerned in Illinois, whether women vote or don't vote makes no difference. The question of taxation without representation in Illinois means nothing, because there is no difference between the laws which tax men and the laws which tax women, and the question of voting cuts no figure in it; because a man does not like to be taxed any more than a woman does. The voter has nothing to say about the taxes anyhow (Laughter). He doesn't want to pay them, but the fellows who are in say, 'We are going to get so much, and this is your share. Now dig.' (Laughter.) That is a realm in which women can be of no service. But in the law of life, those laws which are passed to regulate the domestic relations—husband and wife, parent and child, master and servant, marriage and divorce, and in all that broad realm of the law not touched by constitutions—superior to them—written nowhere except as from time to time we write another chapter in the book, the great realm of the police power, which regulates the personal conduct of the citizen. There, I think, is the great field where women can work for the profit of mankind. I have lived in somewhat intimate association with two women, and I have never thoroughly understood either of them. (Laughter.) Now, that being true—and I take it what is true of me, as one of the human race, is true practically of every other man belonging to the human race—there is half of mankind that man is not fit to legislate for alone; and I think when we get help of this other half to legislate about them, to legislate about

both of us, we shall get better laws, have better results, and have less crime and more happiness than we have ever before had in the world. (Applause.)

It is natural and appropriate that at this time in the evening we should have a talk on service, because that is what we are talking about now, and I have the pleasure of introducing to you the general manager of the Underwriters' Laboratories, who will talk to you on the subject of 'Service'—Mr. W. H. Merrill. (Applause.)"

"Mr. Toastmaster, ladies and gentlemen: It seems to me that the service has been very good. All of the things of which we have partaken at this dinner that should be served warm have been warm; all of the things that should have reached us cold have been frigid. So far as I have been able to observe none of the waiters has spilled soup on anybody. Outside of the dining rooms the service has been good. Each room in the hotel we find furnished with a telephone, and those of us who need a little rest from competition between the speakers and the gentlemen who have been riveting structural iron next door (Laughter) have had opportunity to go to our rooms, take the telephone off the hook, and spend fifteen or twenty minutes in quiet restful repose waiting for that admirable voice on the other end of the line to ask what is our pleasure (Laughter).

The soldiers, the young soldiers in their uniforms whom we have seen here in the hotel, the young soldiers who have carried the grips and the umbrellas, have given us news of the war promptly—the war in the east between the Braves and the Athletics (Laughter) the very latest returns, and the fight near home between the Cubs and the Sox. I found these young soldiers keenly alive to the situation, both in our eastern front and on our right and left wings. (Laughter.)

I did not choose this subject of 'Service.' I was given a gentle hint that I should speak on it. I received what you might call 'a helpful suggestion' to the effect that the program had been printed with my name opposite this—(Laughter)—due, I suppose, to inability on my part to originate anything.

The president must have had in mind that I would perhaps undertake to bore you with a lot of shop talk about the service the Underwriters' Laboratories, which I represent, hope to furnish in

this field. It has been a subject of great interest to him. Your Executive Committee and your officers have worked on this project as he announced in his annual address. He has made me make three trips to New York, one of which came right in the middle of a vacation, and it would perhaps be very pleasant to those who would be interested in all these details to hear me go on for an hour or two and attempt to tell what Underwriters' Laboratories hope to do to serve this cause. But I visited St. Louis once, and a friend of mine there took me out for a motor ride in the park. He spent two hours in the middle of winter showing me where the flowers were going to grow in the summer. (Laughter.) I love flowers, but I did not enjoy the trip.

We hope to serve you well. We will answer the telephone promptly. We will try not to spill the soup; and some time when we have done something of real practical importance that you all will recognize rather than the small work in your field that we have already accomplished, about which I presume very few of you know anything, then—perhaps—maybe—possibly, we will want to talk about it. I promise you now the earnest, careful, thoughtful attention of every one of three hundred engineers on our staff to put forward this work in accordance with the ideas of your president and your Executive Committee.

On the general subject you heard about everything there was to say at the opening Session. Yesterday and today you heard it specialized. Tonight I doubt not that you may hear it for the third time. And that is only natural, because the fundamentals of your doctrine are the fundamentals of the teaching of the greatest teacher that the world has ever seen. His words have been spoken billions of times by millions of people. The brotherhood of man. 'Am I my brother's keeper?' They are very old, and they are very, very true. No human being can question their truth, because their origin is divine.

Miss Tarbell said that men were always falling off something or falling into something, and as the Toastmaster said here in Illinois where heretofore we had always regarded women our superior, we are now by legal enactment instructed to recognize her solely as our equal. (Laughter.)

This emboldens me to follow the good precedent of the toastmaster and say just a word to the superior sex. Every opinion

which has prevailed in this country—every opinion that has eventually prevailed, has originated in the home. Safety is a matter largely of good housekeeping. In all matters of good housekeeping woman is the final arbiter. Now, if you can instruct or cajole, or command, or entreat, or otherwise influence friend father and friend husband and friend brother and friend son to deposit their grip sacks, umbrellas and overshoes and golf clubs and newspapers and cigar ends and other impedimenta (Laughter) in the places provided for them, and you will follow this doctrine from the cradle up, you will sow a seed that will eventually be a very potent factor in the affairs of humanity.” (Applause.)

The TOASTMASTER: There is a story that has bobbed up in the smooth pathway which I saw spread before me. It doesn't seem to apply to anything and I make no application—not now—it is not very large, but I cannot step over it, and it is not very wide, but I cannot get around it, so I am inclined to think the best thing to do is to tell it, and get it out of my system and get it out of the way. Then if by the time I have told it we can find any application for it—why so much the better for the story and for me.

There was a little boy—now you all look at the program and you think it applies to that, but it doesn't—yet. There was a little boy, about six or seven years old, who had been accustomed to the highways and byways of life, and finally they roped him in one Sunday and took him in to Sunday School. He was a sturdy little fellow, one of those who had grown self-reliant, strong, thought out things for himself, had his own opinion, and with anybody of his size maintained them. (Laughter.) Teacher—one of those sweet girl teachers whom we all remember so well from our own childhood—I don't know that I can get the smile, perhaps I better not try (Laughter) said, “Johnny, who made you?” “Well,” he says, “God made me about so long, but I grewed the rest.” (Laughter.)

Now, I have an idea, without knowing anything about it, that that may be the spirit in which the boy scout may develop, sturdy, self-reliant, have his own ideas about things that he has thought about and be ready to maintain them. But we have with us a gentleman tonight who can tell us all about it, and he is the Illinois

State Commissioner of the Boy Scouts of America. I have the pleasure of introducing Mr. E. A. Halsey (Applause).

"Mr. Toastmaster, ladies and gentlemen: I am prepared to fit the last story to a fundamental idea of my topic, that is, the natural American boy, the raw material, if you please.

The gentleman who spoke to the last toast, 'Service,' has illustrated, in what he has done for me, the topic to which he spoke. He has rendered me a most helpful service. He told you he was assigned to a certain topic and was given information in regard to it. I was assigned to a topic in a similar way, but I was left to get my own information. I was asked to talk about 'The Boy Scouts and Safety First.' The information which I needed as to why the two are thus linked together I found in his speech. He said that this Safety First movement fundamentally was based upon the home. I am sure that there is not any home where there is not a boy. So if you are going to have safety first carried out with any degree of completeness, if it starts from the home, if it has its foundation in the home, you must take account of the boy, and that is the connecting link, I take it, between 'The Boy Scouts' and 'Safety First.' For we are taking account of the boy.

As I look into your faces and know that you are the representatives of the great industrial, transportation and manufacturing industries of our land, and that this Safety First movement started among them, even though it is now reaching out to take in all of our life—I am very sure that you will agree with me that there is nothing in the life that you know that counts for more to bring about success and profit and advancement, as such things are usually measured in a material way, than what we call foresight.

The men who have risen to great prominence and successful accomplishment in the businesses with which you are familiar, as in all other lines of endeavor, have been men who have had foresight; the ability to decide when you are acting today as you would decide if you were in tomorrow and were acting upon the proposition of today. Foresight—to think ahead and act in the present, in the light of the knowledge that does not ordinarily come until tomorrow—that makes success. To think ahead, wisely and intelligently, before you act. That is a great motive power to urge men forward to large accomplishments.

Safety First as you know it and as I know it means thinking

before you act. Your movement is based upon that. You are trying to get men, women and children to think before they act, and with you it is not an impelling power to force into action, but it is a restraining force to hold back from action until there has been a proper consideration of the surrounding conditions and circumstances.

The Boy Scout Movement is what I represent. Take out the word 'Scout' and let it be 'Boy Movement.' The two words are synonymous in the very nature of things. There is tautology in speaking of *boy movement*. A boy *is* movement. (Laughter.) Now, what we have done and are trying more and more to do is to put in between those two words, which mean the same thing 'boy' and 'movement,' the word 'scout,' 'scout' meaning to think. Then we have not 'the boy scout movement,' but 'the boy think movement,' which aims to get our boys to thinking before they act. If they do this it will serve as a restraining, conserving, protecting, preventing power, and also as an impelling, forcing forward power; it will be a combination of the two ideas of foresight and safety first.

We are dealing with the natural American boy. You know him. Half of us have been him, if you please (Laughter), and in that case we have been it (Laughter).

I rode in a street car in a city over in Ohio not long ago, going by appointment to talk about the boy scout work; and I had a text. I was to speak on Sunday morning in a church by the courtesy of the pastor. The church is where our work finds a fertile field and my invitation to speak in one shows the way it is regarded all over this land. It is considered worthy to be presented to Christian people on the Sabbath day at the morning service, as the whole address of the morning. I had a text, but I changed it on the way out on the street car. For I saw in big letters inside the car, as an advertisement of an enterprising clothing store, these words: 'Bad—better—best—boys—we recover them,' followed by the name of the firm (Laughter). It was a good advertisement. It caught my attention. It catches yours. But, it was absolutely wrong in its psychology of the boy. The writer said a good deal more than he meant; a good deal more than he knew. Think of it! Bad, better, best, boys! There is a bad boy; of two bad boys there may be the better; and of three

bad boys there is the best; but they are all bad. Is not that the common idea many people have of boys? Not pressing the word bad and making it too criminal, he is a bad boy because he doesn't do just what we want, because he does something in a way we do not like. But, that is the average American boy. He is not a bad and a better and a best bad boy. He is not an angel with wings ready to sprout, but he is in between; a normal boy, like we were and like boys are in our homes tonight.

That is the material we are working with in the Boy Scout Movement. What are we seeking to do? We are trying to get our boy scouts to *think*. Today there are three hundred thousand of them all over the land and hundreds of thousands of them all over the world. You have read, as I have, in the daily dispatches from the seat of war, how boy scouts in England, in Belgium, in France, in Austria, and in Germany are rendering service in this awful struggle of their respective nations for the nation's life.

We are not training boys to become soldiers but we are training them along the line of our motto to 'Be prepared' for whatever may come. The idea is that of the man who is ready to defend himself in the manly art of self-defense, if you please. He is poised with his weight on one foot, so that he can either advance or he can go back. That is the idea of being prepared. And that is what the boy scout work is doing for these boys.

And we are very glad indeed that it has been suggested (and the suggestion will be made a fact, I believe) that there is a place in your great propaganda, in this great work of Safety First, for us to co-operate with you and help forward this work. (Applause.)

These boys are our boys; they are your boys. Now, there are some things about the boy scout work I know, and there is much you know about safety first, and before we get through you may know something I know that you didn't know, and I shall know a great deal that I didn't know, which you know. So we shall have, through a combination of our efforts, the bringing together of the two funds of knowledge, that will produce a resultant knowledge which will work for the good of our land along this great union line.

We are all familiar with what Lincoln said about our nation, our form of government, in his great Gettysburg speech, that it is 'Of the people, for the people and by the people.' If I may be per-

mitted to paraphrase these immortal words, our boy scout work is of the boy, by the boy, for the boy. It is not a man-made proposition that is being imposed upon a lot of boys. The men have no more to do with it than the leaders of the people under Lincoln's definition have to do with our great nation. There must be leaders of a self-governing democracy, and there must be the men to help the boys in this great work, but it is the boys' own work, and because it is their own work, for themselves, done in their own way, it has a vital life. That is going to make it abide.

The Boy Scout Movement is one of the permanent features of our life for several reasons. First, it is natural. We do not claim that we are starting boys to do things they never did. Boys have always loved to go outdoors, study the trees, study the animals, go swimming, fishing, hunting, row boats, camp out, make fires, cook things over the fire, to do all sorts of things, be helpful more or less in the home and out of the home. And boy scout work is simply doing such things. The organization is simply to help the boy to carry on his own activities in a natural way under competent leadership.

The second thing is that it takes the boy seriously, as he takes himself and all his affairs. Why is it that people talk about the boy as if he was a joke? The papers are full of jokes and pictures at the expense of Billy and Harry and Fred and Tom. Cartoonists find a rich field, as they think, making the boy a joke. Did you ever think that there isn't anybody in the home or in society who takes himself more seriously than the boy? Nothing that he does is a joke. It is all worth while. It may be his imagination is at work with some small matter, but to him it is important. And the secret of our success in this boy scout work is that we take the boy and his interests at his own estimate of himself and them.

I saw the other day that a woman, who had made a great success in business life, said, 'The secret of success and happiness is the ability to regard other people as they wish to be regarded, and to reflect the opinion each one has of himself.' This is our attitude to boys.

If you are going to work successfully with boys you must take them seriously, as they take themselves, and we do take them seriously.

The third proposition is that a boy is worth while, while he is a boy. How often have you heard it said, 'We must train this boy because he is going to be a man some time.' We say he is worth while if he never gets to be a man. He is worth while because he is a boy, while he is a boy. And we are working with him that he may render a service while he is a boy. Let us get that fixed in our minds. Get rid of the idea that we are doing this for him as a boy because he is going to be a man. The boy scout work says that everything a boy does as a boy, in his sports, in his activities—especially the activities—is worth while. We regard him as a citizen. We don't wait until he is 21 years old. He is a citizen as a boy and we try to train him to act a citizen's part.

Each year we take from Chicago 800 boys across Lake Michigan some 160 miles to Whitehall, Michigan, where we give them two weeks of camp life in a splendid camp which the Chicago Board of Trade has equipped for us at an expense of \$8,000. We own forty acres of land on Crystal Lake on which we have headquarters building. I wish Chicago would invest not only \$8,000 but \$80,000 in this work for her boys. It would be the best investment this city has ever made. A boy cannot go into a camp like that and spend two weeks, associated with splendid, strong Christian men as leaders, the kind of men who are leading the industries of our city—many of them—and come back the same boy as he went. He has received new ideas. He has seen a new life. We take them over there and every day, in everything, they are learning to be careful. While at home in Chicago our scouts are going out on overnight hikes and to week-end camps.

In these scouting and camping out experiences the same lessons in carefulness are learned by the boys. They are shown that they must be careful where they pitch the tent, that it shall not be near a slough, or where there are mosquitoes; that it shall not be where there is anything offensive, such as dead animals, and shall not be where there is poison ivy or poison oak. Thus, our boy scouts soon find out how necessary it is to protect themselves in a camp, and they become careful. Why should they not be that way in the city?

If it is dangerous to be indifferent to unsanitary surroundings in the country, is it not more so in the city next to an alley where

the garbage box breeds flies and pestilential odors? Is it not important that the boys should be concerned about everything in the block, and in the street and in the ward of the city, which affect health and wellbeing? These matters are his just as much as are camp conditions. We are helping in an organized way our boys to become interested in city affairs, and already they are changing the conditions of things in the ordinary life of the city. If a boy tells his father every day for a week that the garbage box has not been emptied and that it ought to be attended to, and that something else over here has been neglected, the father in self-protection will complain to the ward superintendent, and we are going to get results through our public officers.

I believe that we are beginning to make effective a tremendous force, and along that line our boys are already working in this great matter of 'Safety First.' Is it not a good deal better to prevent sickness and disease through the removal of that which produces sickness and disease than it is to cure it afterwards?

In the line of our scout work, and true to our motto, 'Be prepared,' we are teaching our boys the regular systematic Red Cross bandaging of the hospital, of the trained nurse, of the doctor, and they are doing it just as well. We had the head surgeon of the great Rock Island railroad system examine a lot of our boys in their bandaging and he said to them—the examination was held here at night, in one of the rooms of our board of trade—that the bandaging done by them (some of them not more than twelve, some of them maybe sixteen) was as good as would be done by his assistant doctors and trained nurses.

Now, I could talk a great deal longer upon this side of my subject, the boy scout side of it. But what about the other side, safety first? What does safety first mean? Why, it means to think before you act, to think and then act. It means, moreover, it seems to me, action for another rather than for yourself, when you do act; unselfish regard for others making one careful of life, both his own and theirs.

We are all familiar with those heroic words of the sea, 'Women and children first,' associated with disaster at sea. At such a time 'Safety First' as in the case of the men who went down with the Titanic, who stood back and let the women and children go off

in the lifeboats, did not mean safety to self. Such 'Safety First' then would have meant cravenness and cowardice. 'Safety First' would sometimes make us act unworthily if it only has reference to ourselves. But the beauty of this whole movement that you are interested in is that it is working altruistically, each for the other, and as we are taking care of the safety of our brother he in turn is taking care of our safety, and we are bringing to pass a condition of mutual safety.

So, I believe that there is this splendid, moving, impelling power in our work, as in yours, of disinterested service, of doing something for others, of making life better, and of getting out of our lives more than the mere material product in dollars and cents of so many hours at the desk or in the factory or at the shop or in the work. We are getting out of life as the result of these campaigns which have as their objective the helping of others, a satisfaction and happiness well worth all of our effort.

Would you like to have the ability to carve out of the marble a statue that would last through the ages, like some of the great Grecian sculptors possessed, whose masterpieces have come down to us? To make a human form so perfect that none could make it better? Is it not a good deal better to have a part in preserving this form—the form of a living man or a woman or a child, which God has made, so perfect that our imitations are nothing but imitations? Is it not better to have a part in preserving it from being maimed and crushed and injured? Is it not better to have a part in developing within that form a noble soul; in making an appeal for a better life to all of those you come in contact with, that these splendid human bodies shall be the outward expressions of a more splendid human soul that finds a good deal more in life than the mere amassing of material wealth and material comfort?

So together I believe this great organization which I am proud to represent, 'The Boy Scout Movement,' and your great organization, 'The Safety First Movement,' are going forward, and I hope we are going to be enabled through a careful consideration of the possibilities of co-operation to do something worth while in our Chicago district boy scout work, to help forward your great work of safety first. Both start with the home; and from the home reach out to all the nation, and thence, throughout the world." (Applause.)

The TOASTMASTER: George Washington was the father of his country. I have not required proof on that subject, because I had it given to me while I was young, and I have admitted it ever since. (Laughter.) George traveled a great deal between Virginia and New York during certain years of the century before last, and several times I suppose he stopped at Annapolis. There was a party of "See America first" people who were doing Annapolis. They went to the old State House. There is always somebody around a State House who is willing to help you and show you everything there is there, and tell you all the history and the legends for a consideration (Laughter). This friendly Indian was leading the "See America first" party around through the capitol; he came into one of the rooms and in an awe-struck voice he said to them, "This is the room in which George Washington gave up his commission." There was a business man from—censored—so that I may preserve my neutrality (Laughter)—the western part of Asia minor, who took the friendly Indian aside and said, "How much was his commission?" (Laughter.)

Now I never run up against the question of Insurance or Insurance men that the idea somehow of "commission" does not arise. (Laughter.) I believe—and I say it without fear of successful contradiction—that we have with us tonight a man who never gave up a commission (Laughter). He will talk to us about "Insurance Companies and Accident." I see the person who got up the program put "Prevention" down on another line. (Laughter.) Whether that was done intentionally or providentially I don't know. (Laughter.) I have the pleasure of introducing the Director of the Bureau of Inspection and Accident Prevention of the Aetna Life Insurance Company of Hartford, Mr. David Van Schaack (Applause).

INSURANCE COMPANIES AND ACCIDENT PREVENTION

Mr. Toastmaster, Ladies and Gentlemen:

It gives me great pleasure to be here tonight and to enjoy this opportunity of extending most hearty congratulations to The National Safety Council upon the notable success with which its work has met during its first year of active existence. Without belittling in the least the cordial aid in the way of both advice and co-opera-

tion which has been so freely given by most of the Executive Committee (I should say all except that I personally have, regretfully but of necessity, been unable to do all that I should have done and wished to do), by the members of the Council generally and by many others interested in the promotion of safety, I am sure you will all agree with me that nothing like the progress attained would have been possible but for the untiring enthusiasm and the unremitting energy of our President, Mr. Campbell, and our Secretary, Mr. Cameron.

I doubt if many of us realize the full extent of the difficulties which lie in the way of a new organization struggling for its first foothold. No matter how worthy its objects, no matter how great the real need for its existence, the men in direct charge of such a project are bound to meet with obstacles which would daunt all but the most sanguine. It would seem at times as if every man approached with a view to interesting him were descended from unbroken lines of Missourian ancestry. It is certainly cause for sincere congratulation that the National Council has possessed in its two chief executive officers men who not only are firm believers in the mission of, and the practical need for, such an organization, but are endowed in rare degree with the ability to infuse that belief into others.

It is not only the opportunity to extend well deserved congratulations, however, which gives me the pleasure in being here tonight that I have voiced. Nor is it the sense of personal gratification naturally aroused by receipt of the invitation to speak at this banquet which was so kindly tendered me by those in charge of its arrangements. This latter would account in itself for a very considerable amount of the pleasure, but, without wishing to appear as more than ordinarily modest, I cannot help feeling that I owe the invitation in large part, and very properly so, to an increasing appreciation of the work in Accident Prevention which is being done by Insurance Companies and of the important bearing which the attitude of Insurance Companies toward Accident Prevention has upon the measure of Safety generally attainable—the matter which all of us here present have so deeply at heart.

I welcome especially this opportunity to say a few words upon the subject assigned to me because the attitude of Insurance Companies toward Accident Prevention has been much misunderstood

in so many quarters, and, I regret to say, still appears to be in some. I have even heard it said, though I must confess not recently, and said in apparent seriousness, that Insurance Companies were opposed to Accident Prevention because it would tend to restrict their opportunities for doing business.

It is perfectly true that Insurance Companies want business—all they can get on terms satisfactory to them—and that they want this business in order to make a profit out of it. I make this statement not as an apology, but as a plain assertion of a fact deserving and commanding the assent and the commendation of rational men. There is no more reason why an insurance company should not seek for business and endeavor to derive a profit from it than why any of the manufacturing and other industrial concerns represented by you men before me should not so seek and endeavor. And I take it that these objects are at least numbered among those for which you are striving.

It is this very desire for business, and for a profit from it, which makes the Insurance Company one of the strongest advocates of Accident Prevention, whenever and wherever possible. And very naturally so. We believe in Accident Prevention, if for no other reason, because in our opinion it is good business. We think it conduces to economy of production, in insurance as in industry. We recognize that economy in the making of our product is as essential to its holding its own as it is in the case of any of your products. No matter what a product may be, insurance or anything else, the consumer will not continue to use it unless it is produced as economically as good quality will permit. Products are just as subject as men to the law of the survival of the fittest.

Not only do we believe that advocacy of accident prevention is good business for ourselves, as helping to keep the price of our product lower than would otherwise be possible, and thereby stabilizing and increasing the market for that product, but we consider it even better business for our clients, the employers who consume our product. The economic benefit which they derive from accident prevention is by no means confined to lower cost for their insurance. Nor is the benefit all economic. I shall not attempt to enumerate in detail the many advantages accruing to employers from accident prevention. You are as familiar with them as I am, if not more so. Suffice it to say that Insurance Companies are firmly

convinced that in endeavoring to promote Accident Prevention, both generally and in the individual plants and operations of their assured, they are rendering a real service of far-reaching scope.

Far-reaching indeed, for the mission of accident prevention is not restricted to employers and to insurance companies, nor is it circumscribed by the realm of dollars and cents. Its field extends above and beyond mere selfish considerations. Accident prevention is one endeavor to answer the question recorded in Holy Writ, and quoted at Milwaukee two years ago by our distinguished President as the keynote of this Council's purpose: "Am I my brother's keeper?" Viewed in its higher aspect, it is an earnest effort to reduce so far as is within the power of man that part of the misery of mankind which is created by our industrial life.

The consciousness that Accident Prevention is good work as well as good business is as ever present with insurance men as it is with you and with all others who have come into touch with the suffering, and even privation, so often resulting from industrial accidents. The opportunity to do something toward lessening this sum of human misery appeals to us with as much force as it can appeal to any one.

It is for humanitarian reasons as well as for economic ones that insurance companies welcome the enactment of the Workmen's Compensation laws which are now spreading over the country with such rapidity, for they make possible an extension of accident prevention influence which was impracticable under the Employers' Liability system. The attitude of insurance companies toward Workmen's Compensation is another matter of which there has been some misunderstanding. No one recognized more clearly than the insurance companies the inequalities and injustices of the Employers' Liability method of handling industrial accidents. They showed this plainly by their constant endeavor to sell Workmen's Collective insurance, which was simply a form of Workmen's Compensation. Not only did the Employers' Liability system retard accident prevention, not only was it wastefully inefficient, but the widely varying payments which had to be made for the same kinds of injuries made it impossible for insurance to be placed upon that definite basis which is so essentially desirable for any business.

Insurance Companies have every reason to welcome Workmen's Compensation laws, with their fixing of compensation so far as is

possible in advance, with their assurance that payments of compensation will go where they belong, wholly to injured workmen and their dependents, in no part to parasites, with their general substitution of economy for waste, and with the opportunity which they afford for insurance companies to give due credit not only to the employer who has not had so many accidents as others in his line of work but to him who takes precautions in advance to keep from having accidents.

The Insurance Companies are availing themselves as rapidly and as fully as possible of this opportunity, as is evident from the merit rating system which was initiated by the company with which I have the honor to be connected and which has since been generally adopted by Insurance Companies. As many of you doubtless are aware, Insurance Companies have always taken a lively interest in Accident Prevention. From their very entrance into the business of Employers' Liability insurance a number of them have maintained inspection departments which not only sought out causes of accidents, but endeavored to point out means of prevention, have tried to stimulate interest in accident prevention by publications, lectures and exhibits, have given tangible support to accident prevention movements of one kind or another, but it was not until Workmen's Compensation laws made possible a system of rating based upon definite merit that they were able to offer the great incentive to accident prevention which is now available.

The influence which the merit system of rating insurance risks will exercise in promoting the cause of accident prevention cannot fail to be at least as potent and of as wide range as perhaps any other one influence. Rating a risk according to its individual merits as regards accident prevention provisions, physical and otherwise, touches that most sensitive spot, the pocketbook, but it does far more than this. It points out dangerous places and conditions which long familiarity or lack of knowledge have tended to obscure, and thus leads to the remedying of them. The fact that insurance companies come into direct touch with many more employers than does any one other agency gives them unusual opportunity of being a power for good in accident prevention work, and I am happy to say that they are not overlooking this opportunity.

Individual companies are supplementing the work of the central bureau by ever-increasing activities of their own, and they are

heartily in sympathy and in active co-operation with other agencies engaged in advancing the cause of greater safety. They are especially in accord with, and appreciative of, the thoroughly practical program of work which is being followed so systematically and energetically by this National Council, and I believe that in making this statement and in offering the congratulations which I have extended to the Council I am voicing the general sentiment of insurance men.

No one can fail to recognize the importance of the work which the Council has undertaken, and which it is carrying on with such marked success, notably in that field of accident prevention which is not concerned with physical or mechanical conditions, but which has to do with the greater number of preventable accidents, the hearty co-operation of employer and employee.

Without belittling the Council's activities in other directions—its acting as a clearing house of safeguarding information, its promotion of discussion and conference to bring out the full possibilities of mechanical and physical protection, its fulfilment of various other functions—I believe its greatest mission lies in widespread stimulation of practical interest in Safety, in co-ordination of that interest through its several sections, in education of the employee, and of the growing child who will later become an employee, to belief in and practice of personal caution, in promotion of that effective organization and that cordial co-operation of all concerned without which no Safety Campaign can achieve anything like real success.

I repeat, it has given me the greatest possible pleasure to have this opportunity of extending, as an insurance man, the heartiest of congratulations and the best of wishes to the National Council, and of saying something about the insurance companies in relation to accident prevention, and I trust that in availing myself of the opportunity I have not seemed as prolix as Sandy McPherson's opponent on the golf links, who, after playing seventeen holes in absolute silence could not resist the temptation to give vent, as he was about to drive from the eighteenth tee, to the single heartfelt word "dormie," and thereby drew from Sandy an indignant "chatterbox."

I thank you for your courteous attention.

The TOASTMASTER: As I look down the letter which your President wrote me, I ran across the word, two words perhaps I should say—I will say names, then I will keep my English right. The name St. Louis. Now, I have loved St. Louis and I love it still. I have known somewhat of St. Louis. I knew Schneider's Gardens and Urick's Caves, and Tony Faust and Bill Hydon and Griff Paather; and Mr. Busch and Mr. Budweiser were friends of mine (Laughter). When I saw that we had with us a gentleman from that town I felt that he too was a friend of mine, and he is going to talk to us tonight on the subject of "Fellowship, the Basis of All Safety." And knowing the people among whom he was brought up, and knowing their reputation for fellowship and good fellowship, I know that it is true, and I have great pleasure in introducing the President of the Commonwealth Steel Company, Mr. Clarence H. Howard. (Applause.)

Mr. Toastmaster, Ladies and Gentlemen:

After listening to these splendid talks, I find myself a good deal like the man who said he had hard luck, but finally it changed and got worse. (Laughter.) So when you have a man at the end of the list when there are a lot of commuters who have to go home, everybody wishes he would stop. The subject assigned to me (as a previous speaker said his was assigned to him) is a subject in which I am deeply interested. It reminds me of the story which I once heard told on myself, about a man who was about to be hanged. The judge said, "you have five minutes in which to say what you have to say before being hanged, what have you to say?" He replied that he had nothing to say, and Howard spoke up, and said, "Please, Judge, may I have that five minutes?" The Judge asked Howard what he would talk about, and he replied that he would talk about the Commonwealth Safety and Fellowship work," whereupon the man exclaimed, "Well, you will have to hang me first." So perhaps you would rather be hanged before listening to what I have to say. (Laughter.)

I was impressed with what our friend said about Safety starting in the home, and that took me back to the time when I was a boy. I was sure all boy, and had the usual activities of a boy. I left home to earn my own way at the age of 14, and my mother gave me the best rules for safety that I have ever known. I had

not thought of it in just this way until our friend referred to the home as the basis of safety. My mother said, "We have surrounded you with the best influences possible, and now that you are leaving home, it is entirely in your own hands whether you make a success or a failure. When you go to this new place, seek the association of people from whom you may learn something and become better by having associated with them. Next, never use liquor in any form. Never use tobacco in any form. Never gamble or go where it is done. And last, but not least, if you are invited to go anywhere and have any doubt as to whether it is a proper place to go, just ask yourself if you would take your mother, and if you would not, then decline the invitation." (Applause.) I am sure that no Safety Rules could be followed by a boy which would keep him in safer conditions than that dear mother's Safety Rules to me, and I am very glad to say that my adherence to them has been the basis of whatever success I have had. (Applause.)

In reading a book of which I am very fond, I found that over 3,000 years ago a very wise man (whose temple was referred to by our worthy President tonight) said, "In the multitude of counsellors there is safety." This can be applied to this great Safety Movement—the National Safety Council with its excellent President and Secretary—and I feel as our friend here does, that words are inadequate to express our appreciation of the good work these gentlemen have done. (Applause.) I have been in comparatively close touch with them because one of our Commonwealth men is a member of the Executive Committee, and I have had an excellent opportunity to know what occurs at their meetings. The same wise man also said, "When the righteous are in authority, the people rejoice, but when the wicked bear its rule the people will mourn." Now that is a wise safety rule. We all know that happy people are much more efficient than disgruntled people. This man also said, "If a ruler harkeneth to lies all his servants are wicked." In these sayings there is much food for thought along our safety lines. One more quotation from this wise man: "That I might make ye know the certainty of the words of truth that thou mightest answer the words of truth to them that send unto thee." I am sure this splendid safety organization will give the words of truth to the individuals, companies and all that come to them for aid and advice in safety matters.

Now, if you will pardon me, I will refer to our own company and I am doing so merely because I know more about it. I should like to tell you something of how we started our Safety and Fellowship work, and why we feel that Fellowship is the basis of all safety and of all success and happiness. In speaking of the commonwealth, I am only doing as all great speakers do, for even the President of our country and our Governors say in their speeches, "Always remember the great commonwealth." These gentlemen are the best advertisers we have ever had. (Applause.) The Governor of our State said to a party of gentlemen one day, "It is the duty of every citizen of this great city and state to do all he can for Missouri's great commonwealth," and I replied, "Yes, Governor, and it is located just across the river in Illinois." (Laughter.)

Referring again to the boy proposition, I recall what a great educator in California once said. She said, "Mr. Howard, I have found that there are no bad boys. If you know how to handle a boy, you will find only good in him. When you trust him and put him on his honor, you will eliminate all these things which people call bad." I thought this a very good idea.

When I became President of the Commonwealth, the company was small, had comparatively few employes, and I said to those in charge, "What kind of boys have you?" because I felt we must start first with the boys. The manager replied that we had good boys, and I asked him what he knew about them; if they were in their right place; adapted to their work; were they taking care of their mothers; were they home at night, etc. Well, he hadn't gone into those things very much. I told him to send the boys to our little dining room at the plant, as I wanted to have luncheon with them. I was new and they didn't know me. So they came to the dining room, about thirty of them, I believe. After luncheon I asked each boy his name, age, in which department he worked, what kind of work it was, whether or not he liked it, if he desired to be in any other department. I also asked about his parents, and whether he was helping to support them. I said, "Boys, I don't want to appear as asking too many questions, but I want to see if I may find in you the basis of foremen, superintendents, and managers, and I would be glad if any of you some day will be able to take my place in the company—that is why I want to know something about you. Then I said to the boys, "I am going to

invite you to the theater with me tonight to see that beautiful play, "The Shepherd King." After you have seen it, I want each of you to write me a letter telling me exactly what your impressions are of the play." I discerned that some of the boys were reticent about writing to the President, as some of them probably could not write or spell very well. So, I said, "Boys, I can just feel what you are thinking, but I don't care how badly you spell or write. What I really want is a picture of your heart, and I am sure you cannot beat my spelling, for I saw an old account book the other day, which I kept while going to school, and I saw an item in it, 'One pair of shoes f-i-c-k-s-e-d.'" That seemed to encourage them. We must realize that we have to talk to boys in their own language, and I like what a previous speaker said along that line. Boys are serious, and their work is as important to them as ours is to us. So these boys went to the theater, and when their letters came to me, I want to say that I was proud to be associated with boys who had the thoughts that were brought out in those letters, and with your permission, I am going to read two of them. They were very helpful to me, and it is interesting to know that both of these boys have made good successes. This occurred about ten years ago. One boy said:

"Dear Friend: All of us with the exception of one boy attended the theater and thought the play fine." Now, the thought of that boy, one missing brother, certainly is fellowship.

"I do not think a better play could be given to the public than the Shepherd King. It taught brotherly love, and that is what we all need, in a plain way, for even when two of David's brothers did not want him to share the honors of war with them, the other brother welcomed him with a warm heart. Even though he had a warm heart for his father and mother, yet he seemed to yearn for his brothers in King Saul's army. He wanted to be with them that he might serve his people and his king. When he was granted the permission to go before the giant Goliath, Goliath scoffed at the boy and said, 'You are nothing but a boy, I don't want to fight you, for you are weak and I am strong.'"

"But he did not know that God stood with David and his people, and even so, let the giant stand against them for 'If God be for us who can be against us.'"

"It taught that if we do small things well, we will be rewarded by being given larger things to do."

"It has made a better boy of me, I think, so I shall try, like David, to do harm to no one, but good to all."

"So hoping that the other boys derived as much good from the play as I did, I remain—"

The thought of fellowship all through that letter, and the boy's conclusions, are fine.

The other letter which I have selected, said:

"I certainly did enjoy the evening at the theater immensely. The part I liked the best was how David loved his mother and how David cheered up King Saul by playing his harp and singing, and another part I think nice was when David came home with the little lamb and tied up his feet."

Now the thought of brotherliness in this, the thought of the love of his mother, the thought of the love of the little animal, all goes to the foundation of safety. That little boy was the office boy, and now he is one of our important members. Both of these boys are married and doing splendidly.

We had a small club house, and we told the boys that as fast as they grew, we would enlarge their quarters. We started a night school and gradually inaugurated other things, and one evening when we were having a little entertainment, a woman came to me and said, "Mr. Howard, you don't know what you have done for our family. My husband was sick and I was compelled to take my two boys out of school. You know what that means for a mother, but they were fortunate enough to get in the Commonwealth Steel Plant, and there they are earning a living for us besides learning a trade, and they are really doing as well in their studies as if they had remained in school." If nothing else had occurred, that mother's testimony was enough to justify the entire expense and trouble we had gone to. These are the things which make our work worth while.

In studying true safety work, I learned that only 30% of accidents can be eliminated by mechanical devices. The other 70% must be taken care of by education and fellowship, and teaching the men to be brothers, to be clean, honest and fair.

I try to show our boys that the hole you make in giving, is the

hole you must receive through. If we give out friendliness, kindness and good will, we make a hole through which we receive our blessings. We cannot make our blessings—we can only make channels through which to receive them. Also I try to show our boys how to progress, and I have defined progress as “the shortest distance between two points—from the thing desired to the thing accomplished.” In talking to some young men who were interested in railroads, I used the following illustration, and the points brought out may be helpful to you also. Let us call Progress the main line. Now there are many switches or temptations along the line of progress. Not far from the starting point, we encounter a switch called “Prejudice,” and if we are unwise enough to take this switch, we find an exceedingly rough road-bed, and eventually discover that it leads to Nowhere. Then we find that we have not only lost all this time, but that it is necessary to return to the main line of Progress at the point where we left it. Every time a boy takes a sidetrack, he has lost that much time. As we proceed, we find many other switches with such names as “Envy,” “Malice,” “Who shall be greatest?” “Jealousy,” “Drinking,” “Swearing,” etc., but it is very evident that the man or the organization that passes these temptations or switches will arrive at the destination called “Success” a great deal sooner and with much less trouble than those who take any of these temptation switches. (Applause.) I think we all agree that this Safety Council has demonstrated that idea of progress.

Another thought which has seemed to benefit the boys, is that of dealing with the best in our fellow men. If any of us should buy a farm, part of which was fertile, part stony, and perhaps a swamp, and should plant our seeds in the stony or swampy land, we should say that farming was a failure. But what do we do? You start in the best part of the farm, you get a fine crop and gradually improve the stony portion, fill up the swamp and finally you have a uniformly good farm. In dealing with a man or a boy, let us learn the best thing they ever did and plant our seed in that soil, and we will thus produce the best results and gradually eliminate whatever is not right in the man or boy's character. Every man likes to be trusted, and likes to know that his employer or his fellow man, associate or neighbor, has confidence in him. Confidence is what the world is based on today. Our entire business

organization is built on confidence, and why not give it to the man who works with us and for us. It is then that we discern the idea of Fellowship, which is the basis of all safety. I like the word Fellowship in preference to the word Welfare, for if you are not careful, the latter tends to paternalism. Men do not want charity—they do not want their employers to give them anything, except an opportunity. And when we get true Fellowship, we are all on the same basis from the office boy to the President, working out together the great problem to develop the highest and best in every man. That is what the Safety Movement is for, and that is what we really desire to accomplish.

Now, I feel that in this Safety work we have an excellent opportunity for solving the liquor problem. (Applause.) We have had temperance lectures and all that sort of thing, and you effectively aid this good work when you show a boy or a man that he can not be promoted and that he cannot go forward if he is going to use something that is continually pulling him back. I have never yet seen a man who was so smart or brilliant that he needed something to deaden his sensibilities. None of us are so far advanced that we need to take a drug or poison to pull us back. The best of us are none too good, and therefore let us take the things that are constructive and not destructive, and it is no longer a debatable question that liquor is destroying more lives than war, and causing failures, heartaches, distress and trouble everywhere in the world. A judge told me that he had been on the bench for thirty years in the Criminal Court, and he said that intoxicating liquor is the basis of the trouble in 90% of criminal cases. In my opinion, the Safety Movement will never entirely succeed until the use of liquor is wiped out absolutely. We might just as well face the problem now. Some one may say, "But you will tread on somebody's rights." Rights! Is it right to see a man go down in the ditch, or is it right to help him up?

Everyone of us really needs to be protected against himself, and the greatest victory on earth today is to gain the mastery of one's self. All of our troubles are with ourselves, and every one of our enemies has been made by ourselves. The only way you can lose an enemy is to love him—you can't do it by hating him. (Applause.)

I could talk to you all night, but I have already consumed a

great deal of time. I want to say, however, that we now have a fine, modern clubhouse with an auditorium and stage, where the boys have their entertainments. The auditorium seats between 400 and 500. We also have a nice gymnasium, shower-baths, reading room and a good dining room. One of our latest improvements is a dining room for our working men. Our theory is when a man has to bring his lunch to work with him, his wife has the trouble of preparing it, the man has to carry it with him and eat it in the same environment in which he works. Besides, it is a cold lunch, and when he returns to work he doesn't have the same spirit as if he had gone out of the shop. Now that we have completed the lunch room the workman comes to a clean, light, pleasant lunch room, where he gets a fresh, warm lunch, and it doesn't cost him any more than the cold lunch he brought from home. He eats with Bill today and John tomorrow. They talk things over as they break bread together, and they return to work freshened in mind and body. The whole thing tends to increase Safety and Fellowship. We also installed at considerable expense a purified and refrigerated water system. The water is kept at a temperature of 50 degrees, and no workman has to walk further than 50 feet to get a drink. We have had many, many expressions and letters from our people, and you would be delighted to see how appreciative they all are. A gentleman once said to me, "Howard, do the men all appreciate these things?" I replied, "If they don't appreciate it, it is their loss. It is up to us to do our duty, irrespective of anybody's appreciation. However, they *do* appreciate it."

We also have in the plant yard flower gardens, trees and grass plots, and when the men leave the plant they bow good-night to the little flowers, and when they come back in the morning they have a smile for them. A great author has said that a flower is the smile of God. It encourages the men to keep the place neat and clean, and flowers and grass are great promoters of cleanliness.

In conclusion I am going to read to you a little definition I have given to our men and boys of "A Man of Integrity."

"A Man of Integrity is a man who follows the path of duty as his conscience dictates. He must be guided by principle and not policy.

"He must always be honorable and have a great dislike for any-

thing unworthy or base. He will be found ever the same. A public-spirited citizen, a loyal friend and a loving relative. He can assume no borrowed part, but must have for his basis honesty of purpose and truth of character. Therefore, he knows no path but the one marked out by the Golden Rule—to do unto others as he would have them do unto him. He would prefer to fail rather than succeed by unfair means. He never shows a friendly face while he holds malice in his heart towards his fellow men."

In this way we find that boys and men are looking for the best, and I don't know of anything that will enhance safety more than these ideas. Safety means efficiency, and efficiency and safety mean success; success means happiness, and so one might continue, but if you will analyze it, you will find that fellowship is the basis of all safety, success and happiness. I thank you. (Applause.)

THE TOASTMASTER: Mr. President, the work of the evening has been done without accident. I return the meeting to you—safe. (Applause.)

PRESIDENT CAMPBELL: I think I may express for all of us our thanks to our excellent toastmaster for his services this evening, and our appreciation of them.

There are some who think that we talk too much about Safety, that we are making too much of it. I heard the other day of a woman who thought so. It seems that in her community that there were a number of people who were going about from week to week talking on Safety in the schools, in the Sunday schools, in the boys' clubs, and everywhere they could find an opportunity. She ultimately came to those in charge of the movement and said, "See here, I am getting pretty tired of all this Safety talk. You know when Willie comes home now he won't let father eat his peas with a knife because he is afraid that father will cut his mouth." (Laughter.)

There is one thing I feel I should say, speaking for Mr. Cameron and myself, and that is possibly to deprecate some of the kindly things that have been said about us tonight. There are none of them due to us alone. If there has been any measure of success it has been because there has been thirteen other loyal and interested men in the councils of the Executive Committee and because there have been some 2,769 other men representatives in the

National Council. If there has been anything that has been typical of the work of the National Council during the past year it has been that it has had a multitude of councilors, and before I let the meeting adjourn I take advantage of a last opportunity to thank all of those who had anything to do with this splendid Congress, and say that the Executive Committee and the officers have appreciated every effort that every committee, every chairman of a sub-committee, and every person who has taken any part whatsoever in our Congress, has put forth. It has been another Co-operative Safety Congress, and any measure of success it has enjoyed has been due to that.

We thank you all most heartily for it and we thank all of our members and all of our representatives of members for the spirit that we have had from them during the year, and in doing so I want to bespeak a continuation of that to the end that when we have our next Congress a year hence we may have an equal measure of success or progress to report upon at that time. We thank you, and we hope that you may have got some little measure of treasure out of it—at least, we hope you will have gotten as much as we have. If you have, you have gotten a great deal. I thank you again, and the meeting is now adjourned.

INDEX

A

	Pages
Accident Prevention and Insurance Companies.....	313-318.
Accident Report Forms.....	23-24, 246.
Accident Statistics	75-78, 133, 142, 147-148, 162-163.
Alcohol vs. Safety.....	221. (See also Round Table Sessions generally.)

B

Boy Scout Movement.....	306-312.
Bulletins, Safety	(See Round Table Sessions.)

C

Continuation Schools	96-97.
Co-operation in Safety Work.....	79-86, 100, 108, 131-132, 276-281, 289-293. (See also Round Table Sessions generally.)
Councils, Local	49-70.

E

Economic Value of the Safety Movement.....	110-145.
Educating the Workman.....	203-233.
Education, Safety	84, 110-119. (See also Round Table Sessions generally.)
Efficiency in Safety Work.....	129-134.
Employment Bureaus	95.
Engineers and Safety.....	110-119, 141.

F

Factory Inspection	91, 100-108, 144-145, 148-160.
Fellowship, the Basis of All Safety.....	319-327.
First Aid	84.

G

Pages

Government and Its Relation to Safety Work..... 79-109.

H

Health, Relation of Industrial Sanitation to Public..... 200-202.

Housing of Workmen..... 91-92.

Hygiene 31-34, 133, 161-202, 292.

I

Industrial Diseases (See Occupational Diseases.)

Industrial Hygiene (See Hygiene.)

Inspection Methods 91, 100-108, 144-145, 148-160.

Insurance Companies and Accident Prevention..... 313-318.

L

Lead Industry, Protection of the Worker in the..... 165-167.

Local Councils 49-70.

Lunch Rooms (See Round Table Sessions generally.)

M

Manufacturers and Safety First..... 267-296.

Medical Examination of Employees..... (See Physical Examination of Employees.)

Methods of Inspection..... 91, 100-108, 144-145, 148-160.

Mining Safety 79-86, 142.

Museums of Safety..... 89-90.

N

National Council for Industrial Safety Becomes National

Safety Council 26-27.

National Safety Council, Work of..... 7-15, 16-19.

O

Occupational Diseases 165-167.

Organization, Safety 131.

Topical Index

331

P

	Pages
Panama Canal, Hygienic Measures Taken During Construction of	161-164.
Physical Examination of Employees.....	172-179. (See also Round Table Sessions generally.)
Play Grounds	93.
Public Health, Relation of Industrial Sanitation to.....	200-202.
Public Safety	98, 119-125, 126, 256-264. (See also Round Table Sessions generally.)
Public Service	234-266.

R

Railroads, Safety Problems of.....	239-246.
Report Forms, Accident.....	23-24, 246.
Results Obtained in Safety.....	137-142.
Round Table Sessions:	
First—Methods of Inspection.....	146-160.
(a) For Maintenance and Use of Safeguards.	
(b) For Unsafe Practices.	
(c) For Observance of Rules.	
Second—Educating the Workman.....	203-233.
Rules, Safety	259. (See also Round Table Sessions generally.)

S

Safeguards	146-160.
Safety, Agricultural	89-90.
Safety, Public	98, 119-125, 126, 256-264. (See also Round Table Sessions generally.)
Safety, Standardization of.....	29-30, 105, 113, 259-260.
Safety and Engineers.....	110-119, 141.
Safety Bulletins	(See Round Table Sessions.)
Safety Devices, Standardization of.....	29-30, 105, 113, 259-260.
Safety Education	84, 110-119. (See also Round Table Sessions generally.)

	Pages
Safety Engineers	110-119.
Safety Exhibits	89-90.
Safety First in Europe	86-99.
Safety in Mining	79-86.
Safety Movement, Economic Value of the	110-145.
Safety Museums	89-90.
Safety Organization	131.
Safety Rules	259. (See also Round Table Sessions generally.)
Safety Work, Co-operation in	79-86, 100-108, 131-132, 276-281, 289-293. (See also Round Table Sessions generally.)
Safety Work, Efficiency in	129-134.
Sanitation	133, 195-197, 200-202, 292.
Schools, Continuation	96-97.
Standardization of Safety	29-30, 105, 113, 259-260.
Statistics, Accident	75-78, 133, 142, 147-148, 162-163.
Street Traffic	256-264.
Sections, Organization	13
T	
Traffic, Street	256-264.
Transportation	234-266.
U	
Unemployment	95-96.
Unsafe Practices	157-160. (See also Round Table Sessions generally.)
W	
Welfare Work	93.
Workman, Educating the	203-233.
Workmen, Housing of	91-92.
Workmen's Compensation	94, 291-296.