

TWENTY-THIRD ANNUAL SAFETY CONGRESS
NATIONAL SAFETY COUNCIL



Paper and Pulp Section

Officers 1933-34

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Vice-Chairman in Charge of Membership—H. D. BANTA, Hoberg Paper and Fibre Co., Green Bay, Wis.

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Members at Large—

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W. J. BRENNAN, State Department of Labor and Industry, Augusta, Maine.

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JOHN LUNDRIGAN, International Paper Co., New York, N. Y.

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J. J. PLZAK, Consolidated Water Power and Paper Co., Wisconsin Rapids, Wis.

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B. D. ROGERS, Bird & Sons, Inc., East Walpole, Mass.

F. H. ROSEBUSH, Nekoosa-Edwards Paper Co., Port Edwards, Wis.

MONDAY AFTERNOON SESSION

October 1, 1934

The opening session of the Paper and Pulp Section was called to order by General Chairman H. G. Gilson, Oxford Paper Company, Rumford, Maine, who presided. Chairman Gilson first presented a paper entitled "Our Sectional Activities—Past, Present and Future," in which he sketched briefly the Section's history, and dwelt especially on the good work performed by officers and standing committees during the past year. He then introduced the first speaker.

Accident Prevention and the New Industrial Economy

By ERNEST W. CORN

Field Safety Counselor, F.E.R.A., Washington, D. C.

The speaker said in part: The conservation of human beings and materials has always been the safety objective. I don't believe there is any man that is true to his real colors in accident prevention who has not kept before him continuously that he can make his department a paying department, and yet he has not overlooked the fact that he can send men home whole; that he can bring them back to work the next day relatively as good as they were the day before, that longevity and regularity of employment have been chief considerations of the accident prevention plans.

I was in one of the greatest printing establishments in the United States a few years ago with a young lad with whom I used to like to visit. After dinner together, he took me down to the printing establishment, and I spent a lot of time walking about those immense multicolor printing presses, which you find in an establishment of that kind. But one thing struck me most forcibly. They had a lot of easy chairs and all the employees in that big department were sitting in those easy chairs, some here and some there alongside the presses, but they were all reading magazines, or the evening papers, or doing just what they pleased—in fact everything excepting work.

Now, I was accustomed to seeing men work, and I said to my friend Jack, "This is an awfully busy looking crowd around here."

But he said to me, "Let me tell you, Mr. Corn, you know in our plant we have a slogan which says: 'When these boys work, we lose money.'"

I have an idea that you men feel the same way about a paper mill that has cost a half million or more dollars; you do not object to seeing employees just idling around and letting the blooming thing run. When they work, the corporation is losing money. There are, of course, lots of ways to stop the machine from rolling. You might run a man through it and stop it; you might run a monkey wrench through it and stop it; you might, by some maladjustment, run it to pieces. The thing the management, the foremen and the safety men all want is the consistent, hour by hour, precise production that is making a profit for the corporation.

Out in one of our western states a short time ago I met a safety man who is one of my many friends. He told me about being invited to visit one of the greatest contracting companies of that vicinity. They wanted him to look over their maintenance plant. It was a company that had always had many nice things to say about safety, but didn't really do very much about it.

My friend was reluctant to visit them, but he did go with the definite understanding that he would come and point out the hazards as he saw them, and then he would go away and they could do what they pleased about remedying them. So he went through the plant and made a list of the hazards he discovered, and he told me that he pointed out seventy-four distinct hazards which he observed on his visit. The big boss was somewhat flabbergasted when he got through this list, but he had the maintenance man and the production boss with him, and they were ordered to make the necessary changes.

The day I arrived on one of the big jobs of this same concern, a faulty drag

line that had been condemned swung a bucket against his foreman who had been with him for sixteen years and crushed him to death instantly. Three days later I passed within a short distance of one of the other big contracts of this same concern, and the head of the department of safety of that state, at the request of the president of this contracting concern, had called the head of the department of safety of the next adjoining state to make a thorough investigation of this very large contracting job for the PWA, to see that no unnecessary hazards were left uncorrected in that particular job.

If there was a connection, isn't it really too bad that a foreman who was the father of five children, fifty-two years of age, who had been in that man's employment for sixteen years, had to have his life snuffed out before he had the intestinal fortitude to put into effect the thing that he knew was fundamentally sound? Yet there isn't a single one of you men who cannot point to just such experiences as that. It is happening today all over this country.

You men of the paper industry have made a remarkable accident prevention progress over a period of years in two ways. You have taken an industry out of the woods, so to speak, within the last ten or twelve years, and have built it up until now it has become the proper thing to be safety minded in the paper industry. Along with that, you have built your own technique, and there is hardly a man among you who has been in this business for a period of years but who could write a special manual definitely and specifically fitted to the hazards of the paper industry.

You are part of an industry that presupposes immense financial background, and it has been my experience that when you get into the aristocracy of finance, you get into an environment where men think and where very frequently much more humanity is demonstrated than in some of our less important groups financially.

If you will take the paper companies of this country by and large, you will find them in a few cities, in a large percentage of instances. You might close up a paper industry of 500 men in the city of Cleveland, and it wouldn't cause a ripple in normal times, perhaps, because those men would be reabsorbed in industry without any great disturbance. But if you throw 500 men out of work in a town of 1,500 or 2,000 or 3,000, you have brought a calamity on that community, and for that reason the paper industry has a very definite social significance in many of its seats of operation, and that obtains in the woods as well as at the plant.

So you have a very definite social obligation to impart to the management, and as I have said so many times to other safety groups, fundamentally you are salesmen. You must sell the man at the machine and you must also sell the man in the executive office. You have sold safety in the past on the basis of economy; but you will sell it more essentially in the future on the basis of humanity and the fact that it fits in and is a perfectly legitimate part of the new industrial economy. So if we properly meet the challenge before us, we will recognize our sales obligations and aside from doing a good safety job, we will lead employer and employee alike by the hand out of the twilight of confusion and uncertainty into the new day when through safety we will work together in reasonable unison for social and community welfare.

TUESDAY MORNING SESSION

October 2, 1934

Let's Teach Safety's Teachers

By W. J. BRENNAN

Safety Engineer, Maine Department of Labor and Industry, Augusta, Me.

The speaker said in part: The educators of the world have found the classroom and laboratory methods reasonably effective in teaching "Young America." It follows that safety meetings are logical classrooms for "Supervisory America"; and before someone rises to ask the question, "Are not safety meetings about 100 per cent educational now?" I will touch upon this matter.

First of all, I would say that too much of the safety taught is by the "hind-sight method," i. e., reviewing hazards after victims have been claimed. Because injuries, like lightning, rarely strike in the same place consistently, our meeting set-up should include a definite period for the development of one specific phase of safety as educational material. By this I mean teaching a subject by lecture or demonstration, using blackboards, asking questions, and issuing an abstract of the subject for future reference.

Naturally, matters of general educational interest should be chosen for such meetings, and the topical matter is easy to find. Oxy-acetylene hazards may concern but few committee members, but such subjects as dermatoses, ladders, scaffolds, stairs, chains, ropes, lighting, infection, psychology, economics of safety, electricity, and protective equipment are of universal interest.

The supply of such material is practically unlimited. You pay a plant physician for treating your cases; do you use him as a lecturer to tell of infection, sacroiliac strains, and hernia? You have, or a neighboring plant has, a chemist. Do you use him in your meetings? The same goes for mechanical, civil, and electrical engineers.

Each year a wealth of information is offered by speakers at the Annual Safety Congress, and at dozens of state and sectional meetings. You would like to have all of your foremen attend these sessions, yet it is obviously impossible. Why not cull over the programs and bring certain papers to your own meetings room? The National Congress program in itself offers more than enough material to supply your meeting needs for a year.

In working with safety directors in mills, I plan to ask the question, "How familiar are your foremen with the subject matter on posters displayed in their departments?" Only rarely do I find one who has had a preview, so to speak. Those who have been shown the posters of the month and had their details explained are more prone to parade their new-found knowledge than those who are not quite sure of their ground.

Frankly, I do not see how safety work can succeed without an adequate supply of educational and warning displays. You know and I know that the poorest cigaret on the market can be made to outsell all others in a short time, if it is advertised more than its competitors. Posters, strategically located and well displayed, represent to me persuasive-voiced announcers standing here, there, and everywhere throughout the plant, twenty-four hours a day, giving instructions against chafed rope, hemlock in scaffolds, and the thousand and one hazards ever with us.

For teaching such phases as will interest certain groups only, we have the special or group meeting, and in some plants safety directors are holding one such session each week with some group. The supervisors and their assistants are required to be present; crews are frequently instructed as well. These sessions dispense with all formality and in a very few minutes cover one specific topic, answer questions, and adjourn.

The grinding wheel salesman has a story, as has the saw representative. Of particular merit are the lectures by salesmen from manufacturers of goggles, respirators, and gas masks. One of the most popular salesmen coming into Maine has had a world of training as an officer in the New York Fire Department. His ability to interest and teach, together with his complete repertoire of anecdotes to illustrate his ideas, makes him ultra-valuable in the role I suggest.

In preparing to discuss the advantages of a complete utilization of safety literature, I invariably recall that hot summer day when, it seemed, every hazard I encountered demanded a sketch and every foreman's desk added a little more soot and grease to my coat sleeves. The interest and gratitude of these supervisors well repaid me; but the blow that rocked me back on my heels was to see, at the close of my tour, in the safety director's office, a complete file of the *National Safety News*, from whose pages had been taken all the ideas sketched that afternoon. Here before me stood the originals, none of which had ever seen the desks of the men most concerned!

Safety literature should be analyzed, route sheets attached, and circulated. Those having read their assignments initial the route sheet, and it moves to the next. At safety meetings the chairman sometimes calls for a report—this more for psychological purposes than for any other reason.

Not only should literature be distributed, but a safety library should be accumulated by each supervisor. A loose-leaf notebook to accommodate blueprinted sheets has worked out well. One day a table of chain strengths comes to our attention, to be reproduced notebook size and delivered to interested parties. Another day we submit a print showing ramp, stair and ladder angles, tread and riser dimensions, etc.

It is surprising how those notebooks grow and how forceful the information becomes when presented by itself, shorn of all extraneous matter, on standard sheets. The National Safety Council, with its Instruction Cards, published monthly in the *News*, is doing what some of us have been doing for years with our notebook memoranda. Certainly there is no better way to cover the special hazard field, next to actual classwork.

What does it profit us, in the last analysis, to devote hours and hours of time to the instruction of supervisors, that they may first know and secondly teach, only to have the benefit cut in half by a poor presentation or a tactless approach? Why diminish the yield of fertile brain-soil by a poor job of sowing? It is my belief that we must give our supervisors elementary chemical training with which to combat chemical hazards, engineering fundamentals as a defense against material failures, and an appreciation of psychology with which to forestall the disaster which threatens us always as the result of an inadequate safety consciousness.

Report of Accident Experience Exchange

By ERNEST AUGUSTUS

Safety Director, Mead Corporation, Chillicothe, Ohio

The speaker said in part: The following is a brief summary report of the accident experience exchange and attempted study of paper mill accidents, volunteered by certain members of the Pulp and Paper Section of the National Safety Council following the 22nd Annual Safety Congress.

During the ten or twelve months covered by this report a total of 300 lost-time accidents were reported more or less in detail by 46 separate units or plants. All plants participating in the contest reported a total of 1,405 accidents, resulting in a loss of 102,145 days of time. Time lost as a result of the 300 accidents included in this study amounted to 32,674 days. Included with the 300 accidents covered by this study were four fatalities, seven finger amputations and one loss of an eye.

With all plants on a full-time operating basis, it would naturally be expected that Monday would be the day most prolific of accidents. Figures reported in connection with the 300 accidents included in this study, however, show Tuesday as being the day on which most accidents occurred, with Thursday next in line. This tabulation is as follows: Sunday 10 accidents; Monday 47 accidents; Tuesday 70 accidents; Wednesday 46 accidents; Thursday 55 accidents; Friday 41 accidents; and Saturday 31 accidents.

The period of greatest fatigue is shown to be three or four hours after the individual has started to work. Where rest periods are provided, these peaks may vary, but generally speaking, just before the lunch period and just before the quitting period in the afternoon or at the end of a trick are the times when men tend to grow most careless.

A segregation of the accidents to show the number of years those injured had been employed on a particular job reveals the following statistics:

Employed on the job less than one week 14 accidents; one week to one month 15 accidents; one to six months 62 accidents; six months to one year 30 accidents; one to two years 16 accidents; two to three years 10 accidents; three to four years 15 accidents; four to five years 16 accidents; five to six years 12 accidents; six to seven years 20 accidents; seven to eight years 14 accidents; eight to nine years 10 accidents; nine to ten years 5 accidents; ten to eleven years 6 accidents; eleven to twelve years 8 accidents; twelve to thirteen years 5 accidents; thirteen to fourteen years 3 accidents; fourteen to fifteen years 3 accidents; fifteen to sixteen years 7 accidents; sixteen to seventeen years 6 accidents; seventeen to eighteen years 1

accident; eighteen to nineteen years 2 accidents; nineteen to twenty years no accidents; twenty to twenty-one years 3 accidents; twenty-one to twenty-two years 3 accidents; twenty-two to twenty-three years 1 accident; twenty-three to twenty-four years 1 accident; twenty-four to twenty-five years no accidents; twenty-five years and over 1 accident.

The following tabulation shows the various jobs on which injured workers were employed at the time the accident occurred: Laborers 33 accidents; wood handlers 31 accidents; millwrights 26 accidents; machine tenders 17 accidents; backtenders 14 accidents; beater helpers 14 accidents; fourth hands 12 accidents; beater operators 9 accidents; third hands 8 accidents; rewinder operators 7 accidents; cutter-press men 7 accidents; calendar operators 6 accidents; carpenters 6 accidents; truckers 6 accidents; firemen's helpers 5 accidents; pipefitters 5 accidents; roll-tenders 4 accidents; calendar helpers 4 accidents; laboratory and sample boys 4 accidents; rewinder helpers 4 accidents; miscellaneous 71 accidents.

A grand total of 130 different machines, tools or appliances were listed on the reports as having been connected with the 300 accidents reported. Those in connection with which three or more accidents were recorded are given in the following table: Calendars and super-calendars 15 accidents; cores, collars, shafting, pipe 16 accidents; winders and rewinders 13 accidents; roll-pulp, baled paper, waste 11 accidents; hand-books, picaroons, poles 11 accidents; pulp wood 11 accidents; hand trucks 8 accidents; electric trucks 8 accidents; conveyors 7 accidents; belts 6 accidents; wet floors 6 accidents; paper machine dryers 5 accidents; tables and benches 5 accidents; 4-wheel wagons 5 accidents; tanks 5 accidents; valves 4 accidents; steam and hot-water hose 4 accidents; I-beams and iron or steel bars 4 accidents; ladders 4 accidents; hammers and hatchets 4 accidents; boards, heavy timbers 4 accidents; knives 4 accidents; coils of loose wire 3 accidents; wrenches 3 accidents; cutter-presses 3 accidents; paper machine reels 3 accidents; paper machine felts and felt rolls 3 accidents; broken boxes 3 accidents; beaters 3 accidents; ductor blades 3 accidents; and miscellaneous 176 accidents.

Following are the accidents reported under various classifications coming under the heading "Nature of Injuries Sustained": Bruises, contusions, abrasions 91 accidents; fractures and amputations 60 accidents; sprains and strains 47 accidents; lacerations and cuts 41 accidents; heat burns, scalds 16 accidents; crushed or mashed parts 14 accidents; puncture wounds 10 accidents; foreign bodies in eyes 7 accidents; chemical burns 5 accidents; electric burns 2 accidents; concussion 2 accidents; heat prostration 2 accidents; ivy poisoning 1 accident; dislocations 1 accident; frost bite 1 accident.

The last and probably the most important tabulation in connection with this study of 300 accidents has to do with the answers given to the question "proximate cause of the accident." This question was wrongly stated and should have asked for "Cause of the injury." However, the replies as gathered from the reports on the 300 accidents are as follows: falling or slipping material and objects 66 cases and 7,375 days of lost time; falls, from a height 18, and on the level 29 cases—total of 47 cases, and 1,268 days of lost time; hand tools (hooks, pikes, wrenches, etc.) 28 cases and 377 days of lost time; lifting, pulling, pushing, prying 27 cases and 199 days of lost time caught in revolving rolls 24 cases and 6,932 days of lost time; handling material and objects 19 cases and 410 days of lost time; caught in gears, belts, etc., 19 cases and 7,501 days of lost time bumped by or run over by moving loads, objects, etc., 10 cases and 52 days of lost time; struck by flying objects 10 cases and 85 days of lost time; caught by or jammed between objects 7 cases and 72 days of lost time; splashing liquids 6 cases and 38 days of lost time; stepping in holes or on objects 6 cases and 42 days of lost time; miscellaneous 5 cases and 130 days of lost time; striking and bumping against things 4 cases and 77 days of lost time; burns and scalds—acid, caustics, etc.—7 cases and 7,914 days of lost time; bursting hose 3 cases and 31 days of lost time; explosions and explosive actions 3 cases and 52 days of lost time; foreign objects or substances in eyes 2 cases and 7 days of lost time; extreme hot or cold weather 2 cases and 17 days of lost time; fumes and gases 2 cases and 20 days of lost time; loose clothing caught in machinery 2 cases and 65 days of lost time; bursting grinding wheel 1 case and 20 days of lost time.

Safety Methods Adopted by the Consolidated Paper Corporation

By J. H. TURNER.

Director of Safety, Consolidated Paper Corporation, Ltd., Grand Mere, P. Q., Canada.

The speaker said in part: The following brief table showing the frequency rate of accidents in the various divisions of our company, from 1929, which was the year prior to organization of our safety work, up to and including 1933, will indicate our accident prevention progress.

Frequency Rate for Divisions by Years 1929-1933

	1929	1930	1931	1932	1933
Belgo	30.53	16.29	10.95	13.27	
Laurentide	8.11	9.81	5.96	3.04	13.96
Port Alfred	79.15	40.37		14.65	35.59
Wayagamack	45.02	18.84	8.02	4.19	9.31

We feel that the hopes we entertained in 1930 of a reduction of lost-time accidents throughout the mills have been fairly well satisfied, although in 1933, probably chiefly on account of the economic and social upheaval, there was an increase in accidents.

In general our safety service is organized as follows:

General supervision in all mills is carried on by the director of safety, who is directly responsible to the chairman of the operating committee. The director of safety systematically visits each mill to organize safety committees, inspect the plant from an accident prevention and sanitary standpoint, and suggests ways and means of correcting dangerous working conditions. He conducts publicity campaigns and generally furthers the educational work in connection with all accident prevention activities, scrutinizes accident records, compiles comparative statistics of lost-time accidents each month, deals with all correspondence with outside parties in connection with contests, requests for statistics and all criticisms of the safety first service. While visiting the individual mills, he has the closest cooperation of the mill manager, the safety inspector and the mill physician.

In each of our mills a safety inspector, generally the employment supervisor, and an understudy have been appointed by the mill manager. He accompanies the director of safety upon his periodical visits of inspection, and together they reconstruct as far as possible each lost-time accident and potential lost-time accident as well as near accident, with the parties concerned, with the view of adopting prompt measures to prevent a recurrence. Individual accident folders are kept for each lost-time accident.

The first aid nurse is responsible directly to the mill physician who in turn is responsible to the medical director. The first aid nurse is expected to cooperate with the safety inspector by reporting to him immediately all major accidents and minor injuries which in her opinion should be investigated.

In order that the corporation has accurate and comparable statistics of mill accidents, a "Monthly Accident Statistical Statement" is compiled by the director of safety, from data furnished him by the safety inspectors. This statement covers the data about lost-time accidents in great detail, including, for example: number of working days lost, frequency and severity rates, number of first aid primary dressings and re-dressings, total wages lost by injured employees, etc. Opportunity is then taken to give the greatest possible publicity to these statistics.

Our safety work was started very slowly, but we had the essential backing of our executive officers, and the first step was the organization of a central safety committee in each of the mills. The committee's personnel consists of the mill superintendents and the representative foremen from each of the major departments, selected by the safety inspector with the superintendents' sanction. These foremen members serve for a period of from one year to one and one-half years, and the various members are rotated.

Meetings of this committee are held fortnightly under the chairmanship of the safety inspector. At each meeting all lost-time, minor and near accidents that have occurred since the previous meeting are fully discussed and recommendations made to prevent a recurrence. The accident statistics are explained and the accident experiences at our other mills are reported and applied to conditions in other mills. Suggestions for safeguarding and safer methods of operation are considered and necessary recommendations made.

Safety sub-committees also function at each mill who report to the central safety committees. These sub-committees are under chairmanship of their departmental representative to the central committee; they meet once fortnightly at time and place selected by the members. The object of these sub-committees is to give the mill men the opportunity of discussing their problems amongst themselves without fear or restraint occasioned by the presence of their superintendent. All suggestions submitted by individuals on the sub-committees are considered by the central committee of each mill and finally passed upon or approved by the mill management.

Sanitation and lighting conditions in the mills have constant attention and many improvements have been effected. In this connection, within recent months, cleanliness committees, consisting of from three to six superintendents, have been appointed by the respective mill managers, who make a special inspection of the plant once each month and report conditions found with regard to safety, cleanliness and general conditions. The idea has been instrumental in educating employees to report poor conditions and a notable response has been made.

The fullest cooperation with the Medical Service is maintained, particularly in respect to educating employees to avail themselves of the first aid service. To stimulate use of this first aid service, bulletin boards have been installed showing the departmental distribution of the plant, the number of lost-time accidents sustained by each department since the first of the year, another column showing the names of employees off on account of an accident, and a further column designated "Unsafe Workers" where the names of men are given who have met with an accident which also caused injury to a fellow worker. In this last column, too, appears the names of workers who failed to properly report to the first aid office for any minor injury that they had sustained. Obviously, no man wants to see his name classed as an unsafe worker, and this method has proved of great value in furthering an attitude of safety mindedness throughout the mills.

Naturally, in the early days of our safety service, a great deal of attention was given to the safeguarding of machinery and eliminating hazardous conditions about the mills. At one time this was considered almost the whole function of the accident prevention program. But now, with all known physical conditions adequately safeguarded and correctly maintained, we realize that this phase does not continue to be the most important. Our chief problem is concerned with the employee in directing his mental attitude away from thoughtless, careless and negligent methods of working.

In this program, safety signs, posters and bulletins play just as important a part as advertising does to a commercial concern in promoting a maximum sales production. To obtain best results, we design or select our signs, posters and bulletins, first to attract the attention of the readers, and then to urge his definite action by creating a desire to carry out the message they convey. Proper placement of posters is also important. Those pertaining to a specific hazard in condition or practice are placed right at the machine or other hazardous places, usually where dealing with generalities are put up at other advantageous places, usually where workers congregate. This latter type of poster is rotated from one department to another, while those dealing with specific hazards are removed when the condition to which they refer has been corrected.

The abusive use of signs and bulletins is not tolerated: that is to say, we never use them as a makeshift excuse for not installing guards or making proper correction, nor with the idea that if anything happens we will be cleared and the fault will rest with the victim.

The mental attitude of the employee is most important and we make an opportunity to talk with them individually about their working conditions. One result of this is that the men now pay more attention to the footwear and clothing they

wear on the job. We have greatly reduced the number of accidents previously caused through the wearing of unserviceable shoes, loose and ragged clothing, and employees no longer feel that any cast-off clothing is good enough to wear while at work. It is false economy to increase the hazard of accident by wearing unsafe clothing.

TUESDAY LUNCHEON SESSION

October 2, 1934

After spending a pleasant luncheon hour, Chairman Gilson announced that the principal purpose of this meeting was the formal bestowal of trophies won by unit companies in the various contests conducted during the year among paper mills. He called upon Mr. A. Scott Dowd, Editorial Director, the *Paper Industry Magazine* of Chicago, Chairman of the Contest Committee, to present the "Data on the 1933-34 Safety Contest," as follows:

In the Paper Industry Annual Safety Contest, which extended from July 1, 1933, to June 30, 1934, 105 paper and pulp mills participated. During the contest, 34,132 employees worked a total of 71,463,322 man hours. They suffered a total of 1,402 disabling injuries which occasioned 102,099 days of lost time. The average frequency rate of the contest was 19.626, and the average severity rate was 1.429. Fifty-six of the mills completed the contest with a frequency rate below the average. Out of the total, 6 mills went through the contest with perfect safety scores.

Chairman Gilson then introduced C. B. Auel, Manager, Employees' Service Department, Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pennsylvania, and past president of the National Safety Council, who presented the handsome trophy awards to the eight winning companies in the contest. Mr. Auel congratulated the entire section membership on its good accident prevention efforts, and called particular attention to the fact that it was the Paper and Pulp Section which first instituted a Sectional Safety Contest—an innovation to be taken up later and followed successfully by other sections. With a few well chosen and complimentary remarks, Mr. Auel presented trophies to the following companies:

International Paper Company, Hudson River (winner in Division 1—Group A); 7 disabling injuries, 258 days of lost time; frequency rate 3.598 and severity rate .133.

St. Croix Paper Company (winner in Group B); no disabling injuries.

Bryant Paper Company, Paper Division (winner in Group C); 1 disabling injury causing ten days of lost time; frequency rate 1.973 and severity rate .002.

Bird and Son, Inc., Chicago (winner in Group D); no disabling injuries.

International Paper Company, Riley, Maine (winner in Group D); no disabling injuries.

Hollingsworth and Whitney Company, Abenakis, Maine (winner in Group D); no disabling injuries.

Container Corporation of America, Natick, Mass. (winner in Division II); no disabling injuries.

Southern Container Company (winner in Division 2); no disabling injuries.

Following the presentation of the Council trophies, the special trophy awarded by the *Paper Industry Magazine* to the one outstanding paper mill for safety accomplishment during the year was presented to the St. Croix Paper Company, Woodland, Maine, by A. Scott Dowd, representing Mr. E. B. Fritz, publisher of the *Paper Industry Magazine*.

Report of the Nominating Committee

Chairman Gilson then called for the report of the Nominating Committee, and new officers for the Section for the ensuing year were elected as follows:

General Chairman—H. D. Banta, Hoberg Paper and Fibre Co., Green Bay, Wis.

Vice-Chairman in Charge of Membership—E. E. Grant, The Crystal Tissue Co., Middletown, Ohio.

Secretary and Program Committee Chairman—F. L. Irvin, St. Croix Paper Co., Woodland, Maine.

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News Letter Editor—T. L. Christensen, Continental Paper & Bag Corp., Marinette, Wis.

Engineering Committee Chairman—T. H. Turner, Consolidated Paper Corp., Ltd., Montreal, P. Q. Canada.

Statistics Committee Chairman—A. E. Winslow, Hollingsworth & Whitney Co., Waterville, Maine.

Poster Committee Chairman—J. J. Hastings, Port Huron Sulphite & Paper Co., Port Huron, Mich.

Contest Committee Chairman—A. Scott Dowd, The Paper Industry, Chicago, Ill.

Health Committee Chairman—Dr. E. W. Paine, Hollingsworth & Whitney Co., Waterville, Maine.

Members at Large—

George J. Adams, International Paper Co., New York, N. Y.

W. J. Brennan, Maine Department of Labor and Industry, Augusta, Me.

Kenneth L. Faist, The Champion Coated Paper Co., Hamilton, O.

W. A. Gleason, Hammermill Paper Co., Erie, Pa.

M. G. Hoyman, Kimberly-Clark Corp., Neenah, Wis.

W. J. Peacock, Northern Paper Mills, Green Bay, Wis.

Samuel Pruyn, Finch-Pruyn and Co., Inc., Glens Falls, N. Y.

J. J. Plzak, Consolidated Water Power and Paper Co., Wisconsin Rapids, Wis.

WEDNESDAY MORNING SESSION

October 3, 1934

This session was devoted to a special discussion entitled "Safety Exchange Round Table." It was called to order by the Conference Leader, H. T. Randall, Works Engineer, The Champion Coated Paper Company, Hamilton, Ohio, who presided. Although the subjects discussed were presented informally, and the general discussion was participated in by numerous members who presented their ideas from time to time as the discussion developed, the following has been prepared as a concise summary for these Transactions:

Trimmer Accidents. A trimmer can sometimes be tripped by bumping it. Several accidents and near accidents have been caused in this way. Guards properly placed, however, can prevent this type of accident. Several mills have installed an electrical device to control the tripping action; there are two push buttons and both hands must be used to push the two buttons at the same time in order to trip the machine. To protect the helper also, who is behind the machine, rigid instructions have been issued that he must keep away from the machine—not only his hands, but must not even lean against the machine while it is in operation.

Several years ago a special committee was appointed by the Section to investigate trimmer accidents and possible safety devices to prevent them. The investigation showed that a number of mills were cutting small stock and they objected to any device which kept both of the operators' hands upon the operating buttons or levers during the entire time of operation. They said the operator had to withdraw his hands and hold them against the small stock to prevent the knife from tipping over the piles. The Nekoosa-Edwards Paper Company manufactured for itself a safety device which necessitated the hands of both operators being busy during the time of operation. It was a lug on the cross bar and a lever which tripped into place the moment the bar was thrust back, to avoid any repeating of the knife's operations. With such a device, however, there is nothing to prevent the operator, after he holds the safety lever up so that he can trip with the other hand, releasing this and reaching under the knife. No safety device seems to be universal in its application. The main thing is to recognize the hazard and take any possible steps to correct it.

Cleaning Drier Pits. Several accidents have been caused when men went into the drier pits to clean the rolls while the machine was running, being caught in the rolls and almost instantly killed. It is common for paper to wind around a roll and the temptation is often great to remove it without stopping the machine. However, there is only one safe way to remove this hazard, and that is to permit no one to

enter the drier pits until the machine has ceased running. Some mills have a standing rule that before a man goes into the drier pits he must lock the drier press with a chain and padlock and take the key with him.

Compensation, Payments. In the case of a fatal accident which resulted from a violation of rules, what about compensation payments? If the case resulted fatally in Ontario, Canada, it wouldn't make any difference whether it was deliberate, carelessness, deliberate neglect or violation of the rule. If it is a fatal accident, compensation follows. In a non-fatal case, it doesn't necessarily follow. If they consider the violation of the rule is sufficiently flagrant, they can disallow the case completely on the grounds that the man was not acting in the course of his duties, he was acting contrary to rules. In Ohio, however (it was stated), the employee can do nothing in the way of neglect that will preclude his right to collect compensation for an accident. In Quebec, however, the opposite is again the case and the employee can collect (or his family can collect) compensation payment. Their law was founded on the Ontario law.

Compensator Fires. What is the proper way of putting out a fire in a compensator box? In one mill the instructions are to let the box burn; get away from it, get a fire hose and, staying at least 20 feet away, squirt the fire down with the hose. This mill is convinced that an operator of a two-and-one-half inch fire hose, twenty feet away from 2300 volts, even with his feet grounded, will not be shocked. The mill, however, instructs its men to let the box burn until the thing blows up, and then turn the fire hose on, because by the time it is blown up, it kicks the main breaker in the generator room, so that the lines are dead. Definite instructions have been given to all men that they are not to touch the safety box or compensator box when it is on fire, because the chances are it is stuck. When a man touches the safety box it will blow up in his face. It is important to educate all employees in the well known standard rule or practice to operate compensators with the left hand and always keep the face away from the front of the compensator. This is the only way to get away from serious burning accidents in electrical equipment.

Safety Switches. The following experience is quoted verbatim: "It has been our experience that some so-called 'safety switches' are the most dangerous pieces of equipment in a paper mill. It might be well for you to go back and look over your safety switches. If they are of the same type as ours, it would be well to take the steps we have taken. Most safety switches have a cross bar that operates the phase knives. That cross bar is fastened on with a little linkage. If the little linkage mechanism should break, all three phases will be short circuited. We have had that happen several times. We have corrected it by insulating the cross bar with bakelite tubes; and, in addition, welding an angle inside the box, so that if the linkage mechanism breaks, the handle can't be thrown far enough to short circuit the phases with the cross bar."

Goggles. What are mills doing to enforce the use of goggles? Nothing but continual harping on the subject will make a man realize that his eyes are invaluable property to him. Discipline for violation of the goggle rules frequently includes a layoff for one or two weeks. The Pullman Company follows the rigid rule of making everyone in the shop, whether messenger, worker, or the president of the company himself, wear goggles while in the shops. A similar plan is followed by the Kalamazoo Vegetable Parchment Company, Kalamazoo, Michigan, the goggles being fitted to each individual by a capable optician. Experience shows that to enforce such a rigid rule requires the thorough support of the supervisory force. Goggles of many types are required, to fit the individual to the job and the job to the individual. In short, no single type of goggles can be used throughout the plant or throughout the department. There is a certain adequate type of goggle for each occupation.

Safety Rules Enforcement. Whether the problem is enforcement of the rule about the wearing of goggles, or some other safety rule, it is of the utmost importance that management back up an adequate enforcement of the rules. In one case, after posting of and ordering that a ten-day lay-off would be given to any man who was found working on a dangerous machine without his goggles, the next day the foreman of the department was found working on a grinding wheel without goggles. In this case, as in all others, the management, if it is sincere, must enforce

the rule. It is often well in making safety rules, to give the workers an opportunity to assist in their formulation. In one case workers in a department were given a number of types of goggles and asked to wear them and express their private opinion as to their servability. In this case the workers picked out a certain type of goggle of the wide vision kind and no trouble was found in getting them to wear them. When management has thus carefully covered the situation, decided upon the necessary rules to be followed, and considered the comfort and perhaps even the opinions of the workers, then there is no reason why the enforcement of the rules should not be regularly carried out. Although rules and regulations may not wholly solve the problem of safety, they have their importance in convincing the workers that the management is sincere and that it is going to back up the safety program 100 per cent.

THURSDAY MORNING SESSION

October 4, 1934

Trend of Occupational Diseases and Compensation

By A. G. CRANCH, A.B., M.D.

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The speaker said in part: The view that Workmen's Compensation represents the recognition of a social principle is probably generally accepted today, and forms the basis upon which such laws are administered and should form the basis for further amendments. This social principle, that the consumer pays the cost of production, involves charging the costs resulting from payment of compensation back on the product and therefore such costs should be kept low. This should be done not primarily through lowered payments as such, but through more efficient prevention and treatment, therefore amendments should insure especially more adequate safety work, and shortening of disabilities through improved medical care. But during the years of changes in these laws, we find too often that most amendments have been the result of compromise between two groups, one trying to keep down costs by limiting all payments to the lowest figures, and the other trying to increase the coverage and cash returns to workers injured. Too little attention would seem to be paid to simplified administration, preventive work, and more adequate medical care.

Today the really interested parties are the various Labor Departments with their boards of commissions who must administer the law, the employers, the employees and the medical profession. In addition to these there are two groups who are injecting their influence into this field—propagandists for various forms of "social legislation" and the legal profession. The first of these seem anxious to engraft upon the compensation system increased coverage which would make of it practically a general health insurance. As for the second, many of its members seem anxious to develop methods of administration such as might require a great increase in legal services; this notwithstanding the fact that one of the essential features of the system was to make it possible for the injured workman to receive payments without necessity for expense of litigation. Unfortunately, as already mentioned, changes in these laws are too frequently brought about, not on their merits or in the real furtherance of what seems generally recognized as the basis of the law, but through compromise between two groups striving with one another over many measures which may be before the legislature.

The trend ever since these laws came into effect has been toward increased liberality. Cash benefits have been increased for temporary and permanent disabilities, and for death claims; "waiting periods" have been reduced; periods during which medical care is given, and amounts available therefore, have been increased; coverage has been increased, and in twelve states occupational diseases, as well as accidental injuries, have been made compensable in one way or another.

This trend toward liberality up to the time of the depression was largely reflected in the administration of the law. As the chairman of the Commission in one of our States said publicly a few years ago—"I consider the fund a fund created for the benefit of the workman, and if it is humanly possible to make a payment to a claimant without direct violation of the law, it should be done." The result of this attitude, which at the time seemed not at all unique, was that many claims were awarded on what seemed to be entirely insufficient evidence, and for conditions so remotely connected with the alleged cause as to be almost grotesque. Payment of claims based on the theory of "aggravation of a pre-existing condition" was common, and often seemed very far fetched.

In prosperous times it was possible to carry on with these extremely liberal interpretations. With the depression the picture changed. Reduced employment brought reduced collections for the funds and this in spite of frequent increases in premium rates. Reserve funds became "frozen" and banking conditions played havoc with such funds as were supposedly entirely available. Although employment fell off and with it the number of accidents, this was far from true with claims—at least as to size and frequency in proportion to the number of accidents. Today there is a flood of "not allowed" claims, because baseless, also many old claims are being revived, but all claims of this sort must be investigated, greatly increasing administrative expense and delaying the work of the boards and commissions. Then, too, many absences from work have become noticeably disproportionate in length for the apparent severity of the injury. Appeals from adverse decisions are far more frequent and in states where appeal to a court can be made, juries are making awards in many cases on what seems insufficient grounds. The result of these trends has been greatly increased cost of insurance, and in some cases actual threatening of the financial stability of the insurers.

Present trends in compensation may then be summed up as follows:

In claims—far more groundless and "border line" claims are being filed, apparently in an effort to stretch the coverage of these laws to include what might belong to health or unemployment insurance laws.

In administration—an increasing tendency to make use of legal services in presenting claims; more appeals; more complication in procedure and delay in payments; a marked tendency to interpret the law more strictly.

In scope—a steadily growing tendency to include coverage for occupational diseases as well as accidental injuries.

In spite of its ancestry, I believe we will agree that Workmen's Compensation is now recognized generally as based on a sound social principle. Costs of the care of injured workers are legitimately part of the cost of the product. If this is true in the case of accidental injuries, it is only logical that diseases directly resulting from occupation should also be compensable. This was recognized in Europe fifty years ago by some governments, and inclusion of occupational diseases is now very general in European compensation schemes. In this country practically all our compensation laws, when first passed, wholly ignored occupational diseases. Usually coverage was limited specifically to accidents. In some states only the word "injury" was used, so claims for injury due to disease and not accident were presented. This called for court rulings and in this way rather than through any apparent intention in the law, occupational diseases were included. In some states by amendment the wording was changed so as to allow compensation for disease in this way. In other states amendments were adopted providing compensation for certain scheduled diseases. The movement for inclusion of diseases under compensation began some fifteen years ago, but even after this lapse of time they are compensable in one way or another in only twelve states, and also by the Federal Government and three territories.

Along with the definite trend toward inclusion of occupational disease, has always been some considerable argument as to scope and method of coverage. Theoretically, just as any accidental injury arising out of and in the course of employment is compensable, so should any disease. This idea is reflected in the legislation where the act applies to "injury" and may so include any disease as well as accident. This is the so-called "blanket coverage." The other method is to adopt a schedule of disease recognized as occupational, making them compensable but excluding others. This limited coverage is known as the "schedule" method. There are valid argu-

ments for and against each method. To present these briefly and with as little bias as possible, would summarize as follows:—

"Blanket Coverage" while theoretically sound and the method presumably most just to the workman, presents so many practical difficulties in administration that it may often fail to give the protection desired. It is also far more likely to be abused if liberally interpreted, until it could in effect become almost general health insurance for workmen. If any illness attributable to a man's work is supposed to be covered, almost any illness may be the basis of a claim. To determine the occupational connection would often become a highly complex medical question. Already under this system so much litigation is often required, and court rulings must be followed, that the purpose of the law in aiding those disabled is not infrequently defeated. The "schedule" method was the first method tried and has stood the test of half a century's practice in some European countries. The schedule should be carefully prepared to cover the outstanding recognized occupational diseases apt to occur in the state. It should not follow blindly some earlier schedule which may include many diseases never likely to occur, and possibly omitting others quite likely to be found. It should be limited to recognized conditions known to be of essentially occupational origin and capable of definite diagnosis. Provision should be made for some form of competent medical board of review, officially connected with the body administering the compensation law and the decision of this board should be final on medical matters. Provision should also be made for inclusion of additional occupational diseases as experience indicates. With a properly prepared schedule and proper administration, certainly 90 per cent of occupational diseases should be covered.

In extending compensation coverage to occupational diseases it must be recognized that whatever method is pursued, we are dealing with a much more complex subject than with accidents. Expert medical information is essential in administration and must be available from an impartial source to the board or commission responsible. The ultimate cost of such coverage is also quite a problem. Some ridiculously low figures have been given from time to time in comparison with the premium figures for accident coverage, but so far the surface has only been scratched. We know that costs have steadily increased for coverage of accidents, despite the presumed clear cut nature of an accident. We can only guess what the relative increase in costs would be for occupational diseases when such coverage becomes more general and information regarding its possibilities is more widespread. This is especially true if "blanket coverage" is attempted. No insurance company or state fund knows how to estimate the cost. As an illustration of this we have only to cite the present appalling situation with regard to silicosis, and this same problem of silicosis shows the vital need for a special set up in dealing with occupational disease as compared with accident. To attempt to do justice to the silicosis problem by including it as an "injury" and dealing with it through present laws designed only for accident coverage would be almost impossible.

Compared with accident compensation our experience with occupational disease coverage is small indeed. The first compensation laws were often very poorly framed, precedents were often too blindly followed and basic needs seemed only partially appreciated. This is largely true of our first efforts to include occupational disease, but a new trend is noticeable, and I believe further advance in this field will show a better appreciation of the important features of such legislation. In Pennsylvania and Massachusetts, for instance, some outstanding studies have been made by well qualified commissions. The report of the Pennsylvania Commission contains one of the most masterful analyses of the problem of compensation for occupational disease so far published. Through such studies it should be possible to draft a law accomplishing its purpose with essential justice and with the possibility of efficient administration.

To sum up the trend in the field of compensation for occupational disease, I would say that there is a definite increase in recognition of the justice of such coverage; that haphazard methods of approach are giving way to intelligent study of the problem; that such study seems to show clearly the value of a schedule method rather than blanket coverage, and that there is increasing recognition that a different set up is required for efficient administration with provision for adequate medical advice in handling claims.

At present two tendencies are very noticeable—one toward broader coverage, the other toward a return to methods of administration involving more legal aid and the courts. The first might lead to inclusion under a compensation law of much that should not be covered in such laws. The real purpose of the law should always be kept in mind and the law administered accordingly or else the whole scheme may be endangered through excessive costs. The second seems likely to defeat two of the important features of the law, namely, to make it possible for an injured workman to obtain payment for his disability without the added expense of legal aid, and without the hampering technicalities of court procedure.

In closing this review we might list as objectives which could well be considered in further amendments the following:

1. Carefully considered provision for occupational disease coverage, with special coverage for silicosis.
2. Better recognition of the essential medical features of such laws, especially as affecting occupational disease coverage, through the formation of non-political, non-partisan, competent medical boards with official status and with power of final decision in medical matters.
3. Provision for more effectual preventive features.
4. More recognition of the value of high grade medical treatment, as compared with cash payment for disabilities.
5. Simpler methods of administration, requiring less legal service and court procedure.
6. Provision for final decision of claims by the boards or commissions charged with administration.
7. Adoption of some method for more just handling of claims involving "aggravation of preexisting condition" as in two states now, through apportionment of amount of resulting disability, logically attributable to the "aggravation."

Putting Safety Engineers Under the Microscope

By W. GRAHAM COLE

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The speaker said in part: Aside from the responsibility of a safety engineer to a given industrial property, safety engineers generally have the responsibility to emphasize the need of organized effort wherever human beings are employed. They are also in a position to stimulate the active leadership of the employers of small plants in their communities, because of the general effect of all types of occupational accidents upon the national rate and upon insurance premiums.

In the industrial plant which, because of its size or interest of management, has been fit to employ an individual to serve as safety engineer, either on full or part time, this individual becomes the pivot man in the resulting safety program. Upon him rests a direct responsibility to develop policy, leadership and organization which will result in a reduction of accidents and a decrease in the waste and inefficiency incident to the occurrence of accidents.

When the need of safety work was first accepted among industrial employers, the prevention of accidents was considered very largely in terms of mechanical safeguarding. The safety engineer was frequently selected because of his knowledge of mechanical engineering, for ability to foresee mechanical hazards, and to design and build proper safeguarding devices. Experience soon indicated, however, that only a relatively small percentage of occupational injuries resulted directly from mechanical imperfections, and that, on the other hand, personal habits of the employees resulted in the larger percentage of accidents. At this step in the evolution of safety engineering as a profession, considerable attention was given to the need of training employees and of stimulating their continual interest in accident work. The work of the safety engineer then became very largely that of a promotional or educational agent.

In this regard safety committees were organized to interest employees and obtain their cooperation in discovering and correcting unsafe conditions and practices.

Safety rallies were held to stimulate group interest. Contests were conducted to encourage the production of improved accident records of departments or entire industrial units. In some instances, a form of bonus was paid for the accomplishment of exceptionally good records. Advertising principles were utilized and attempts were made to develop interest through various publicity methods. Bulletin boards were erected and used to display safety posters and at times to present special messages from the local manager. Cautionary and instructive signs were placed at important places to attract attention to a probable hazard, or to present safety advice. Pay envelopes and other means were used to distribute pamphlets and other printed messages about safety.

These various promotional activities were, in most instances, designed to reach the employees as a group or, in other words, they followed the line of mass approach. The results of these efforts were apparent in many industrial properties and marked reductions in accidents were noted. Several years ago it became apparent, in some industrial organizations, that the ultimate in accident prevention could not be obtained entirely by mass appeal to all employees. It was appreciated that this type of appeal would have considerable effect upon certain groups of employees but that there were, in practically every industry, other groups who would not react to general educational activities, even though they had the same opportunity to come in contact with these activities.

The appreciation of this fact led to the adoption of more direct methods of reaching certain groups of employees. Disciplinary measures were found necessary in some cases. In others, it was considered advisable to study the individual habits and characteristics of certain employees and to take individual steps to overcome lack of interest or indicated accident proneness. Increasing attention was given to a review of applicants' fitness for the work to which they were to be assigned, to the study of the actual requirements of specific jobs from the accident viewpoint, and to the need of closer supervision and special training for certain jobs.

During this period also, the position of the executive and the supervisor in the program was given greater emphasis and increased attention was given to the need of convincing managements of their responsibility in the safety program. Methods were also developed to emphasize the importance of the supervisor, and in some instances foremen's safety conferences were organized and conducted.

The recent period of business depression in the United States presented a means of measuring, to some extent, the results of organized safety activities in industrial organizations. To be sure, the numbers of industrial fatalities or serious accidents show a decline during this period, but it is doubtful that this decrease was as great as the decrease in employment or, in other words, as the decrease in exposure. In some outstanding instances, industrial safety programs have been continued during the depression, diminishing only to an extent comparable with the decrease in industrial activity and employment. In many other instances, however, the industrial safety program suffered materially, even to the extent of the total elimination of safety departments or the coordination of the duties of the safety engineering with those of some other executive.

The experience during a number of years prior to the depression has emphasized, by many studies which have been made including specifically a study conducted by the Engineering Council, a definite relationship between accident prevent and plant efficiency. Those who have had the privilege of close contact with safety work realize that the frequent occurrence of accidents is a measure of inefficiency, and that safety programs are an essential phase of economic operation. Based upon this fact, it is reasonable to suppose that industry would not decrease its safety activities during a period when it was suffering from business depression, but rather would increase its interest in those activities which aided to decrease wastage and to overcome inefficient and uneconomic operations.

It is apparent, therefore, that the diminished interest in safety evidenced on some properties, was but an indication of the fact that the management of these properties had not been sold effectively to the value of safety work from an economic as well as a humane viewpoint. This statement should not be construed entirely as a criticism of the safety engineer of these specific projects, but rather as an indication of the failure of the safety engineering profession as a whole to reach and impress

business executives with the value of safety activities and their responsibility for the conduct of prevention programs.

For more than a year, steps have been taken by the National Government designed to aid American business to overcome the depression. In this recovery program it seems very probable that the profit making organization will be the one which is able to produce, distribute and sell its merchandise in an economic manner. This will require the elimination of wasteful and uneconomic practices which involves, in very large part, the elimination of those conditions which are productive of accidents.

In the past, accident prevention was considered very largely as a humane responsibility and accidents were considered usually as those incidents which resulted in human suffering. Recent studies have indicated, however, that industrial accidents also result in the destruction of property, the damage of machinery, the spoilage of raw and finished product, and the loss of valuable and trained workers. In many instances these conditions result where no personal injury is experienced. The prevention of all types of accidents would thus serve to decrease many forms of waste and in a number of instances will mean the difference between loss and profit on the annual balance sheet.

We have thus reached a step in the evolution of safety management never before reached, when the safety profession has an outstanding opportunity to indicate its proper place as a part of economic industrial management. In this position, the safety engineering profession is aided by the National Government which has required the insertion of a clause in the various industrial codes and has called upon organized industry to develop definite safety programs.

Furthermore, the government has shown an example and taken the leadership in developing organized safety work among the thousands of individuals who have been added to government payrolls through C. W. A., R. W. A., T. E. R. A., and other large governmental recovery activities.

The safety engineer who will, therefore, capitalize upon his present opportunities is the one who will take active steps to analyze the reasons executives have not been, in many instances, thoroughly sold on the advantages of safety programs. In doing this, he will analyze the past activities of the safety profession and will endeavor to develop himself and his safety program as an essential to the conduct of the industry. It has been easy for the safety engineer to present perhaps an alibi, and to presume or say that better results could have been obtained if it had been possible to secure the more active leadership of the higher executives, and the criticism that management had, in many instances, not visualized the importance of safety procedure. On the other hand, he placed the responsibility for this lack of interest directly upon the safety engineering profession. He emphasized the fact that executives were responsible for many other activities and that unless their attention was continually and forcefully called to the need of their personal participation in accident prevention work, they were prone to lose sight of this responsibility.

If it is granted that accidents are a form of economic waste and that the prevention of accidents is an economic necessity, it can be assumed that the entire responsibility for the safety program is one that naturally rests on the chief operating executive, and further, that the safety program should not be considered purely as a welfare activity but as a phase of industrial management and supervision. With this conception, the safety engineer is not an independent force attempting to instill safety consciousness and prevent accidents through his own ability. On the other hand, he becomes an assistant to, not a substitute for, the operating head of the business. In this position, it is his responsibility to keep the operating head thoroughly advised of the accident problem and as a representative of the operating head, to see that the safety policy of the company is carried out. In following such a procedure, the department supervisor or foreman naturally is the man held responsible for the prevention of accidents among his particular group of employees. The safety engineer has the responsibility, not to prevent accidents in a department, but to aid the department head to visualize his responsibility and to develop and carry out necessary activities. In this capacity, the safety engineer is in a position to coordinate the activities of the various departments.

The departmental supervisor requires the cooperation of the men who are work-

ing for him. To accomplish this it is necessary that he impress his workers, both by example and conversation, with his sincere interest, and encourage them to aid him in the conduct of plant activities, unmarred by either personal injury or non-personal injury accidents. The appointment of certain employees on safety committees will undoubtedly aid the supervisor in meeting his responsibility, if the committee is organized with this purpose in mind. Too frequently in the past committees have been organized wholly for the purpose of securing insurance premium reductions. In many instances, these committees have been effective on paper only, and in some cases they have resulted in a group of men authorized to criticize defects in safeguarding and in operating procedure. To be sure, there may still be conditions in industry where safeguarding is essential. On the other hand, there are many instances where accidents can only be prevented by the personal actions and practices of the employees. The effective safety committee is one which recognizes the entire situation and serves as a means of securing employee cooperation with the safety program.

In summary, therefore, may we emphasize the fact that the safety engineer has, at the present moment, perhaps the most opportunity he has ever had to analyze the defects in past procedure and to develop himself as an integral part of the operating procedure of his industry, and as a real assistant to the chief operating executive.

ADJOURNMENT