FILE NAME: Lone Star Industries (LS)

DATE: 19оф

DOC#: LSллo

5OCUMENT DESCRIPTION: 9ÈŎŜ№LJű π ¢№l·yãl·ŏűλ2yã ₹₸ űĸŜ bl·űλ2yl·f {l·₸Ŝűè /₴dzyŎλf π h₸₸λŎŜ№ă ℊ 5λ№ŜŎű₴№ă

TRANSACTIONS

SAFETY

20th

NATIONAL SAFETY CONGRESS

ATLANTIC CITY
OCTOBER 16-20, 1939

THE CLEVELAND PUBLIC LIBRARY

tabbies
PLAINTIFF'S EXHIBIT
NSC-8a

NATIONAL SAFETY COUNCIL, INC.

Copyright, 1939, National Safety Council, Inc. Printed in U. S. A.

Foreword

THE Transactions of the 28th National Safety Congress and Exposition of the National Safety Council, October 16 to 20, 1939, are published in two volumes. Volume I contains the general and subject sessions and the sessions of the various Industrial Sections. Volume II contains the Street and Highway Traffic, the Commercial Vehicle, the Transit, the Child Education, and the Home Safety sessions.

Volume I is distributed automatically to all industrial members of the Council. Volume II is sent to members who are believed to be interested chiefly in the sessions it contains. However, other Council members may obtain Volume II upon request.

Many members have found it of benefit to distribute copies of the Transactions volumes to both executives, foremen and supervisors, who have used the practical information they contain in safety programs and for general reference purposes. Extra copies of the Transactions may be obtained as follows: One to 10 copies of Vol. I, at $2 each; 11 or more copies, $1.75 each. Extra copies of Vol. II cost 75 cents each.

THE Transactions are a condensed record of the proceedings of the Congress. The papers and addresses have been edited to delete extraneous matter, abbreviate the less important portions, and emphasize what may be of particular usefulness in promoting effective safety organization and other accident prevention measures. These volumes, therefore, are a somewhat abridged version, compact, practical and of particular value to the student and executive interested in achieving more thorough accident prevention success. The original manuscripts are available for additional reference, if desired, in the files of the National Safety Council.

THE National Safety Council, at its Congresses, seeks to eliminate from discussion matters which are not pertinent to the aims of the Congress or which may be contrary to the Council's policies. It cannot accept responsibility, however, for all views expressed either in the papers which have been delivered or in the discussions based upon these papers.

NATIONAL SAFETY COUNCIL, Inc.
20 North Wacker Drive
Chicago

41- 14228

Contents

Council Officers and Directors 4
Council Purposes and Program 9
Annual Meeting of Members 11
Annual Banquet 27
Special Subject Sessions—
- Eliminating Mechanical Causes of Accidents 29
- Fire Control and Prevention 43
- Fumes, Gases and Vapors 55
- Governmental Safety Service in Industry 69
- Health Service in Industry 93
- Industrial Nursing 109
- Maintaining Interest in Safety 123
- Occupational Disease Control 133
- Off-the-Job Accidents 149
- Safety Inspectors 163
- The Human Side of Safety 181
- Welding and Cutting 203

Aeronautical Section 225
A. S. S. E.—Engineering Section 239
Automotive and Machine Shop Section 245
Cement and Quarry Section 259
Chemical Section 273
Construction Section 299
Food Section 319
Marine Section 339
Meat Packing, Tanning and Leather Industries Section 391
Metals Section 407
Mining Section 449
Paper and Pulp Section 477
Petroleum Section 531
Power Press Section 567
Public Utilities Section 581
Refrigeration Section 607
Rubber Section 623
Steam Railroad Section 645
Textile Section 677
Wood Products Section 693
Safety Exposition Exhibitors 715
Index 719

A. F. CLEVELAND BRANCH

National Safety Council, Inc.

HONORARY MEMBERS

Association of Iron and Steel Engineers
Robert W. Campbell
Lew R. Palmer

OFFICERS (1939-1940)

Col. John Stilwell, President
H. J. Aldrich, Vice-President for Safety Councils
L. C. Campbell, Vice-President for Industrial Safety
Wm. C. Knoelk, Vice-President for Education
Dr. Miller McClintock, Vice-President for Public Safety
I. W. Millard, Vice-President for Finance and Treasurer
Walter S. Paine, Vice-President for Engineering
Lew R. Palmer, Vice-President for Public Relations
A. V. Rohweder, Vice-President for Home Safety
R. T. Solensten, Vice-President for Membership
W. H. Cameron, Managing Director and Secretary

EXECUTIVE COMMITTEE (1939-1940)

H. J. Aldrich, Spencer Kellogg & Sons, Inc.
J. I. Banash, Past President
C. W. Bergquist, Past President
H. W. Boggess, Sinclair Prairie Oil Co.
H. E. Bolt, South Bend Civic Safety Council
F. W. Braun, ASSE-Engineering Section
W. H. Cameron, National Safety Council
L. C. Campbell, The Koppers Coal Company
R. W. Campbell, Past President
Robert I. Catlin, Aetna Casualty & Surety Co.
D. B. Chant, Paper and Pulp Section
Lewis A. DeBlois, Past President
C. W. Dempsey, The Liquid Carbonic Corp.
C. R. Dooley, Socony-Vacuum Oil Co. Inc.
Marcus A. Dow, Past President
Harold F. Enlows, American National Red Cross
D. D. Fennell, Past President
H. J. Griffith, Metals Section
E. E. Grover, Columbus & Southern Ohio Electric Co.
Harry Guilbert, The Pullman Co.
G. T. Hellmuth, Chicago Rapid Transit Co.
Harold G. Hoffman, Unemployment Compensation Comm. of N. J.
S. B. Horrell, The Carey Salt Co.
W. Floyd Jackson, Delaware Safety Council

OFFICERS AND DIRECTORS, Continued

Walter G. King, Past President
Wm. C. Knoelk, Milwaukee Safety Commission
John E. Long, Past President
Thos. H. MacDonald, Federal Public Roads Administration
R. A. McArthur, Public Service Coordinated Transport
Dr. Miller McClintock, Yale University
I. W. Millard, Industrial Gloves Co.
Harold L. Miner, E. I. du Pont de Nemours & Co.
Hon. Eliot Ness, Director of Public Safety, Cleveland
C. J. Normann, Petroleum Section
E. J. O'Brien, Jr., Louisville Safety Council
Walter S. Paine, Aetna Life & Affiliated Cos.
Lew R. Palmer, Past President
C. E. Pettibone, Past President
B. O. Pickard, Marine Section
Albert S. Regula, Industrial Relations Counselors, Inc.
R. J. Reigeluth, Construction Section
Lt. Col. Henry A. Reninger, Past President
E. A. Roberts, Textile Section
A. V. Rohweder, Duluth, Missabe & Iron Range Ry. Co.
Charles B. Scott, Past President
Frank T. Sheets, Portland Cement Association
Gen. John H. Sherburne, Massachusetts Safety Council
Carl L. Smith, Cleveland Safety Council
C. R. Smith, American Air Lines, Inc.
R. T. Solensten, Elliott Service Co.
Leslie J. Sorenson, City Traffic Engineer, Chicago
Col. John Stilwell, Consolidated Edison Company of New York, Inc.
John M. Sylvester, Lehigh Valley Safety Council
C. P. Tolman, Past President
George G. Traver, Greater Chicago Safety Council
Dr. C. H. Watson, Past President
A. W. Whitney, National Conservation Bureau
R. V. Wright, Railway Age
Arthur H. Young, Past President

DIRECTORS (1939-1940)

H. J. Aldrich, Spencer Kellogg & Sons, Inc.
A. L. Armstrong, Eastman Kodak Company
Vern W. Aubel, Safety Div., Syracuse Chamber of Commerce
J. I. Banash, Past President
D. A. Barrett, Carnegie-Illinois Steel Corp.
Leo H. Beaulac, Blackstone Valley Safety Council
Ernest W. Beck, United States Rubber Co.
C. W. Bergquist, Past President
E. F. Blank, Jones & Laughlin Steel Corp.
H. W. Boggess, Sinclair Prairie Oil Co.
H. E. Bolt, South Bend Civic Safety Council

C. B. Bouell, Wisconsin Public Service Corp
J. C. Bower, Automotive and Machine Shop Section
F. W. Braun, ASSE-Engineering Section
Joseph A. Brophy, Elizabeth Safety Council
F. S. Brown, Standard Accident Insurance Co
P. N. Bushnell, Cement Section
W. H. Cameron, National Safety Council
A. D. Campbell, Mining Section
L. C. Campbell, The Koppers Coal Co.
Robert W. Campbell, Past President
Raymond A. Carey, Evanston Safety Council
Ray Carney, Kenosha Safety Council
Robert J. Catlin, Aetna Casualty & Surety Co.
D. B. Chant, Paper and Pulp Section
Wm. M. Clark, St. Joseph Safety Council
Kenneth B. Colman, Seattle Traffic & Safety Council
J. E. Cultiney, Bethlehem Steel Co.
Lewis A. DeBrots, Past President
C. W. Dempsey, The Liquid Carbonic Corp
Milton W. Dobrzensky, East Bay Safety Council
C. R. Dooley, Socony-Vacuum Oil Co. Inc.
James B. Douglas, The Philadelphia Gas Works Co
Marcus A. Dow, Past President
Harold E. Enlows, American National Red Cross
H. D. Fennell, Past President
Donald A. Finkbeiner, Toledo Safety Council
Dr. Hart E. Fisher, Chicago Rapid Transit Co.
Victor B. Fitzpatrick, Richmond Safety Council
Howard B. Fonda, Burroughs Wellcome & Co. (USA) Inc.
Wm. H. Forsyth, Superior & Douglas County Safety Council
Arthur C. Fry, Worcester Safety Council
John B. Gibson, Western Electric Co
Earl H. Gift, Peoria Association of Commerce Safety Council
Randolph L. Gilman, Railway Safety Council
W. A. Griffin, American Telephone & Telegraph Co.
H. J. Griffith, Metals Section
E. F. Grover, Columbus & Southern Ohio Electric Co
Harry Guilbert, The Pullman Company
D. T. Harrington, U. S. Bureau of Mines
Frank H. Harrison, International Harvester Co
G. T. Heltmuth, Chicago Rapid Transit Co.
E. L. Henry, Steam Railroad Section
J. C. Herbert, Greater Los Angeles Safety Council
Chas. E. Hill, New York Central System
Harold G. Hoffman, Unemployment Compensation Commission, New Jersey
Paul Holland, Baltimore Safety Council
J. Andrew Holley, Child Education Section
S. B. Horbelt, The Carey Salt Co
Major Norman A. Imrie, Safety Council of Columbus Chamber of Commerce

Merrick Jackson, Employees' Publication Section
W. Floyd Jackson, Delaware Safety Council
Wm. F. James, Philadelphia Safety Council
Jasper B. Johnson, Madison County Safety Council
T. B. Johnson, Commercial Vehicle Section
Frank L. Jones, Greater New York Safety Council
Thomas P. Kearns, Ohio Industrial Commission
Ralph O. Keefer, Chemical Section
H. H. Kelly, U. S. Interstate Commerce Commission
Walter G. King, Past President
Wm. C. Knoelk, Milwaukee Safety Commission
Wm. S. Knudsen, Detroit Industrial Safety Council
Otto C. Kuhrt, Greater Springfield Safety Council
C. L. LaFountaine, Great Northern Railway Co.
Roy Lee, Contra Costa County Safety Council
Arnold Lockerby, Grand Rapids Safety Council
John E. Long, Past President
Thos. H. MacDonald, Federal Public Roads Administration
Hon. Arthur W. Magee, New Jersey Commissioner of Motor Vehicles
Dennis J. Maley, Safety Bureau, Buffalo Chamber of Commerce
R. A. McArthur, Public Service Coordinated Transport
H. N. McClellan, Berkeley Traffic Safety Commission
Dr. Miller McClintock, Yale University
David L. Millar, St. Louis Safety Council
I. W. Millard, Industrial Gloves Company
Harold L. Miner, E. I. du Pont de Nemours & Co.
Harry S. Moody, Rochester Safety Council
R. B. Morley, Industrial Accident Prevention Associations
R. W. Morse, Rubber Section
C. L. Murray, Mason City-Cerro Gordo County Safety Council
Hon. Eliot Ness, Director of Public Safety, Cleveland
C. J. Normann, Petroleum Section
E. J. O'Brien, Jr., Louisville Safety Council
George C. A. Opp, The Detroit Edison Company
Walter S. Paine, Aetna Life & Affiliated Companies
Lew R. Palmer, Past President
David A. Patton, Newark Safety Council
C. K. Peacock, Chattanooga Safety Council
Charles W. Penidock, Safety Division, Milwaukee Association of Commerce
C. E. Pettibone, Past President
B. O. Pickard, Marine Section
Judge Harry H. Porter, Street & Highway Traffic Section
H. A. Ptolemy, Public Utilities Section
A. A. Rall, Refrigeration Section
Albert S. Regula, Industrial Relations Counselors, Inc
R. J. Reigeluth, Construction Section
Lt. Col. Henry A. Reininger, Past President
Marinus Riter, Paterson Safety Council
E. A. Roberts, Textile Section

OFFICERS AND DIRECTORS, Continued

A. V. Roemeder, Duluth, Missabe & Iron Range Ry. Co.
G. E. Sanford, General Electric Company
Henry G. Schaefner, Meat Packing, Tanning & Leather Industries Section
Harry E. Schfark, Kansas City Safety Council
Charles B. Scott, Past President
Earl S. Shartzer, Utica Safety Council
Frank T. Sheets, Portland Cement Association
Gen. John H. Sherburne, Massachusetts Safety Council
Dr. I. A. Shoudy, Bethlehem Steel Company
Ernest L. Simonds, New Haven Safety Council
Adolph Skinner, Safety Dept., Nashville Chamber of Commerce
Carl L. Smith, Cleveland Safety Council
C. R. Smith, American Air Lines, Inc.
R. T. Solensten, Elliott Service Company
Leslie J. Sorenson, City Traffic Engineer, Chicago
E. C. Spring, Philadelphia, Pa.
Col. John Stilwell, Consolidated Edison Company of N. Y. Inc.
Edmund C. Stone, Western Pennsylvania Safety Council
John M. Sylvester, Lehigh Valley Safety Council
Arthur M. Tode, Consulting Marine Engineer
C. P. Tolman, Past President
George G. Traver, Greater Chicago Safety Council
Dr. B. L. Vosburgh, General Electric Company
Dr. C. H. Watson, Past President
Fred A. Webb, Food Section
G. Wise Wescott, Safety Dept., Automobile Club of Rhode Island
T. Anglin White, Safety Div., Birmingham Chamber of Commerce
S. E. Whiting, Liberty Mutual Insurance Co.
A. W. Whitney, National Conservation Bureau
J. C. Wilson, Wood Products Section
A. N. Woodhead, Albany Safety Council
W. E. Worth, International Harvester Co.
R. V. Wright, Railway Age
Arthur H. Young, Past President
F. J. Zaiet, Safety Bureau, Duluth Chamber of Commerce
M. R. Zeller, Power Press Section

Council Purposes and Program

The National Safety Council is a non profit, cooperative association whose objective is the elimination of accidents. To achieve this objective the Council advocates the following program of safety activities:

1. CREATING INTEREST IN SAFETY. People will try to prevent accidents only when they are convinced of three things: (a) that accidents are really a serious problem, threatening personal happiness, industrial efficiency and economic security; (b) that accidents don't "just happen," but that each one has definite, ascertainable causes; (c) that accidents can be prevented. The basic requirement in a national safety program, therefore, is a dramatic and effective presentation of these facts to more and more people.

2. FINDING ACCIDENT CAUSES. Accident causes are not the same in any two plants, in any two cities, in any two schools. They are not the same from one time to another. Every industrial plant, every city, every school and every other public or private organization, therefore, must study the causes of accidents in its own group, so that prevention efforts always will be directed at the things really responsible for accidents.

3. MAINTAINING INTEREST IN SAFETY. People retain interest in very few things of which they are not continuously reminded. Therefore, it is the task of the newspaper, the radio, the magazine, the school, the public speaker and every other educational influence to keep reminding the worker, the driver, the pedestrian, the housewife and the school child that freedom from accidents depends on personal caution, and that the safe way is the right way and the best way—from the standpoint not only of human satisfaction, but of social efficiency and economy.

4. ENGINEERING IMPROVEMENT. Many accidents occur because equipment is faulty. The punch press is unguarded, the automobile brakes are worn, the stairway is crudely built, the propeller is defective, the stop sign is obscured. The avoidance of accidents, therefore, requires that safety be built into every piece of machinery, every home, every school building, every highway. We must insist that the things we buy- whether a stepladder or a stop sign, a hand-saw or a blast furnace—be safe things. And we must be willing if necessary to pay a higher price because of this built-in safety factor, realizing that it is true economy to do so.

5. TRAINING FOR SAFETY. Many accidents occur because the injured person or some other person acts in an unsafe manner. This unsafe act often is committed because the person involved never has been taught how to do the job in the safe way. Therefore, boys and girls, men and women, must be taught how to work, how to drive, how to cross the street, how to live safely. This teaching and training is a joint responsibility of industry, of schools and colleges, of governmental groups and of parents in the home.

6. SUPERVISION FOR SAFETY. Many who know well the safe method of performing an act nevertheless are involved in accidents because, due to hurry, fatigue, thoughtlessness or some other reason, they do not perform the act in what they know is the safe way. Therefore, we need good foremen in industry, alert patrol boys in our schools, diligent police officers on our streets, thoughtful parents in our homes. These, through wise guidance of those under their supervision, can greatly minimize the chances of accident.

7. LEGISLATION FOR SAFETY. Avoidance of accidents requires the adoption and scientific enforcement of sound legislation—legislation on traffic, on industrial matters, on public transportation, on home construction and maintenance, and on many items of personal conduct. Such legislation provides a standard to which a large majority of people are willing to conform and thus live together harmoniously and safely. It also provides a basis for requiring the conformity of a small minority, who would not otherwise be willing to submerge their personal desires, for the sake of safety in the entire group.

8. SAFETY RESPONSIBILITY. Leadership in every walk of life should involve leadership in safety. Those who administer

an engine can be shut down entirely, all but major repairs effected, and placed back in operation again, with no appreciable difference in the airplane's flying ability. And engine failures account for 12.16 per cent of fatal airline accidents.

Large aircraft, too, are flown with a different technique. The flight deck on the trans-ocean clippers, for instance, is the same size as the passenger cabin on the largest of our present land transports. This flight deck is reserved for the flight crew. Instead of the usual pilot-copilot combination, these clippers are flown by a crew of five primary flight officers—with five reserve officers—under the direct command of a captain who graduated to this position of trust and of responsibility through a minimum of seven years of study and training. Under the captain, the primary flight functions normally handled by the pilot-copilot are divided into separate flight stations—administration, piloting, navigation, radio communication, engineering. Each of these posts is manned by a specialist, trained for that particular task. These flight officers stand watch and are relieved at regular periods, and return to their own living quarters aboard ship.

Though years of training, of study and actual experience, these multiple crews function as one man and make possible, for the first time in long distance transport aircraft, the achievement of scientific flight conduct—a system which, under the command of the Captain, provides for a triple check on all primary factors, which lessens strain without lessening responsibility, which is designed to effect the highest attainable level of personal efficiency. And personnel errors account for nearly 30 per cent of fatal airline accidents.

These factors—many of which are brought to their highest application for the first time on the trans-ocean clippers—where the facilities were built into the design of the original aircraft—are incorporated in the technique of international over-water flying. They are basic to a record of 171,871,000 over-water passenger miles, without a fatal accident in flight.

The safety record of transoceanic and transcontinental air transport did not just grow. It is the result of deliberate effort, of painstaking care, of endless research and test. Air travel, as we know it today, is purely a concept of this generation. It has had to make its way, from the start, in competition with the matured safety records of the older forms of transport. It has had to struggle with the principles of increased danger inherent in any type of high-speed travel—and we have the fastest ever known to man. But, because of these very reasons, more effort has been continuously and forcefully exerted to raise the standard of airline safety than that lavished in any similar period of development on any other means of transport.

This extraordinary effort has not come alone from within the industry itself. The encouraging results are, in a real measure, due to the tireless cooperation which the air transport industry has received from outside agencies such as the National Advisory Committee for Aeronautics, our Government's great research organization, and the Civil Aeronautics Authority, whose diligent efforts to effect greater airline safety stand out as a signal achievement of their first full year in office. In fact, all having to do with aviation have shared in the early recognition, by the air transport industry, of its responsibility toward the public in the matter of safety. These combined elements all continue as active as ever today in their common goal. Their support offers the promising possibility that aviation can eventually be made the safest form of travel known to man.

ADJOURNMENT

American Society of Safety Engineers—Engineering Section

Officers 1938-1939

General Chairman—R. E. Donovan, Standard Oil Co. of California, San Francisco, Calif.
Vice-Chairman—F. W. Braun, Employers Mutuals, Wausau, Wis.
Vice-Chairman—H. J. Griffith, Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Secretary—W. Dean Keefer, National Safety Council, Inc., Chicago, Ill.
Members at Large—
George J. Adams, International Paper Co., Glens Falls, N. Y.
Cyril Ainsworth, American Standards Association, New York, N. Y.
*J. I. Banash, Consulting Engineer, Chicago, Ill.
*E. W. Beck, United States Rubber Co., New York, N. Y.
R. A. Beyer, Central Tube Co., Ambridge, Pa. (Western Pennsylvania Safety Council Chapter)
*C. B. Boulet, Wisconsin Public Service Corp., Milwaukee, Wis.
E. W. Bullard, E. D. Bullard Co., San Francisco, Calif. (San Francisco Chapter)
Charles D. Farlin, Consolidated Edison Co. of N. Y., New York, N. Y. (Metropolitan Chapter)
Roy M. Godwin, Philadelphia Electric Co., Philadelphia, Pa. (Philadelphia Chapter)
*R. McA. Keown, Industrial Commission of Wisconsin, Madison, Wis.
Everett F. King, Lever Brothers Co., Cambridge, Mass. (Boston Chapter)
Robert C. Ledbetter, Texas Employers Insurance Association, Dallas, Texas. (Southwest Chapter)
Thomas E. Lightfoot, The Koppers Coal Co., Pittsburgh, Pa.
*M. G. Lloyd, National Bureau of Standards, Washington, D. C.
J. E. Long, The Delaware & Hudson Railroad Corp., Albany, N. Y.
H. L. Miner, E. I. du Pont de Nemours & Co., Wilmington, Del.
J. T. O'Brien, Jersey Central Power & Light Co., Asbury Park, N. J. (New Jersey Chapter)
W. S. Paine, Aetna Casualty & Surety Co., Hartford, Conn.
*A. S. Regula, Industrial Relations Counselors, Inc., New York, N. Y.
A. V. Rohweder, Duluth, Missabe & Iron Range Railway Co., Duluth, Minn.
*D. L. Royer, Ocean Accident & Guarantee Corp., New York, N. Y.
*G. E. Sanford, General Electric Co., Schenectady, N. Y.
J. S. Shaw, Hercules Powder Co., Wilmington, Del.
*C. W. Smith, Standard Oil Co. (Ind.), Chicago, Ill.
*H. S. Smith, Union Carbide & Carbon Corp., New York, N. Y.
*R. F. Thalner, Buick Motor Co., Flint, Mich.
*S. E. Whiting, Liberty Mutual Insurance Co., Boston, Mass.
Philip Williams, E. I. du Pont de Nemours & Co., Buffalo, N. Y. (Niagara Frontier Chapter)
William P. Yant, Mine Safety Appliances Co., Pittsburgh, Pa.
*Past General Chairman

Officers 1939-1940

General Chairman—F. W. Braun, Employers Mutuals, Wausau, Wis.
Vice-Chairman—H. J. Griffith, Jones & Laughlin Steel Corp., Pittsburgh, Pa.

Vice Chairman WELLS MACLACHLAN, Hydro Electric Power Commission, Toronto, Ont., Canada

Secretary W. DEAN KEEFER, National Safety Council, Inc., Chicago, Ill

Members at Large

GEORGE J. ADAMS, International Paper Co., Glens Falls, N. Y.
CYRIL AINSWORTH, American Standards Association, New York, N. Y
*J. T. BANASH, Consulting Engineer, Chicago, Ill
*E. W. BECK, United States Rubber Co., New York, N. Y.
H. R. BIXLER, Union Carbide Co., New York, N. Y.
*C. B. BOULET, Wisconsin Public Service Corp., Milwaukee, Wis.
E. W. BULLARD, E. D. Bullard Co., San Francisco, Calif. (San Francisco Chapter.)
GEORGE M. BURNS, Kansas City Safety Council, Kansas City, Mo. (Kansas City Chapter.)
FRANK J. CONROY, Union Carbide Co., Niagara Falls, N. Y. (Niagara Frontier Chapter.)
THOS. R. DONOGHUE, Pittsburgh Plate Glass Co., Creighton, Pa. (Western Pennsylvania Safety Council Chapter.)
*R. E. DONOVAN, Standard Oil Co. of California, San Francisco, Calif.
J. A. DOWNEY, JR., Sloss Sheffield Steel & Iron Co., Birmingham, Ala. (Alabama Chapter.)
CHARLES D. FARLIN, Consolidated Edison Co. of N. Y., New York, N. Y. (Metropolitan Chapter.)
H. F. GILBERT, American Cyanamid Co., Linden, N. J. (New Jersey Chapter.)
ROY M. GODWIN, Philadelphia Electric Co., Philadelphia, Pa. (Philadelphia Chapter.)
C. L. HIGHTOWER, United Gas Pipe Line Co., Houston, Texas (Gulf Coast Chapter.)
*R. McA. KEOWN, Industrial Commission of Wisconsin, Madison, Wis.
EVERETT E. KING, Lever Brothers Co., Cambridge, Mass. (Boston Chapter.)
THOMAS E. LIGHTFOOT, The Koppers Coal Co., Pittsburgh, Pa.
*M. G. LLOYD, National Bureau of Standards, Washington, D. C.
J. E. LONG, The Delaware & Hudson Railroad Corp., Albany, N. Y.
W. S. PAINE, Aetna Casualty & Surety Co., Hartford, Conn.
*A. S. REGULA, Industrial Relations Counselors, Inc., New York, N. Y
A. V. ROHWEDER, Duluth, Missabe & Iron Range Railway Co., Duluth, Minn.
*D. J. ROYER, Ocean Accident & Guarantee Corp., New York, N. Y.
*G. E. SANFORD, General Electric Co., Schenectady, N. Y.
J. S. SHAW, Hercules Powder Co., Wilmington, Del.
*C. W. SMITH, Standard Oil Co. (Ind.), Chicago, Ill.
*H. S. SMITH, Union Carbide Co., New York, N. Y.
*R. F. THALNER, Buick Motor Co., Flint, Mich.
C. W. VAN WAGONER, Traders & General Insurance Co., Dallas, Texas (Southwest Chapter.)
*S. E. WHITING, Liberty Mutual Insurance Co., Boston, Mass.
WILLIAM P. YANT, Mine Safety Appliances Co., Pittsburgh, Pa.

*Past General Chairman

WEDNESDAY LUNCHEON SESSION

October 18, 1939

The Annual Meeting of the A.S.S.E.-Engineering Section of the National Safety Council followed a luncheon held in the Renaissance Room of the Ambassador Hotel. General Chairman R. E. Donovan, Chief Safety Engineer, Standard Oil Company of California, San Francisco, Calif., presided. Mimeographed copies of all committee reports were distributed to the assembled delegates.

The report of the Nominating Committee was presented by C. B. Boulet, Chairman. Other members of the Nominating Committee were D. L. Royer, A. S. Regula, S. E. Whiting, and C. W. Smith. A list of names of the men elected to various positions, as recommended by the Nominating Committee, may be found in t section of the Congress Transactions.

After the regular business of the me ing was concluded, General Chairman E. Donovan introduced the speaker for t occasion, Mr. C. A. McCune whose addr follows

Detection of Flaws in Steel and Steel Parts

By C. A. McCUNE

Secretary, Magnaflux Corporation, New York City

From the standpoint of safety our chief concern is proving that important parts are free from physical defects or flaws of the type that might cause failure.

In any discussion of flaws or their detection, consideration must be given to the conditions surrounding the part under tests; i.e., whether it is a newly made part or one in service.

In new parts defects may exist in the metal itself in the form of laps, seams, laminations or slag. On the other hand metal free from such imperfections can readily be ruined by improper forging, machining, grinding, heat treating and other possible manufacturing operations.

These defects may readily be discovered in the mill or plant and it is, therefore, easy to prevent such parts from getting into service.

Used parts present a different aspect; the type of defect usually suspected is a separation of the surface, or one extending from the surface well down in the body of the metal, commonly termed a crack.

This crack may be of such an incipient nature as to defy detection by eye or by means of a high powered glass or by any of the ordinary methods of inspection. This is a most dangerous type of defect because if such a part is permitted to remain in service, failure is likely to result.

Cracks in used parts are usually attributed to faulty design or poor workmanship. They are more likely the result of excessive and unanticipated stresses.

It is a known fact that any separation of the metallic body is considered a stress raiser and, regardless of depth, it takes little from the point of excess stress or in combination with a vibratory stress to courage these to assume relatively la proportions.

Where overstress is not a factor, fatig cracks developed in service may be the sult of sharp fillets, grooves from mach ing operations or accidental notches due improper handling.

One noted authority concluded that th was nothing remarkable as to why cra formed at such locations, the mystery w what delayed them.

The useful fatigue strength of otherw sound metal is limited to these vari forms of conditions which produce so-cal stress raisers.

Despite the great advance in engineer design and metallurgical developments steel and improved production methods directed toward the construction of wh might be termed failure proof equipme there are so many unpredictable factors th periodic inspection of stressed parts in se ice is essential.

All parts found to contain shallow cra need not be scrapped, as in a great major of cases, particularly on heavy sections, t crack can be removed by dressing down t surface of the metal to a point below wh the crack extends, then retesting to ins that the crack has been removed. Repa can also be made by welding and the f ished weld be just as easily inspected. We found to contain cracks can be chipped o rewelded and retested.

The starting of a crack is the origin a very sharp notch. It is the sharpness this notch and not the reduction of area the metallic body which causes progress failure. Therefore, to insure safety th

Automotive and Machine Shop Section

Officers 1938-1939

General Chairman—W. A. Bechill, Chrysler Corp., DeSoto Div., Detroit, Mich.
Vice-Chairman—J. C. Bower, Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.
Vice-Chairman—L. G. Seaton, General Motors Corp., Detroit, Mich.
Secretary—L. B. Loomis, Ternstedt Manufacturing Div., General Motors Corp., Detroit, Mich.
News Letter Editor—W. H. Marshall, Yellow Truck & Coach Co., Pontiac, Mich.
Engineering Committee Chairman—*R. A. Shaw, Murray Corp. of America, Detroit, Mich.
Health Committee Chairman—Dr. A. L. Brooks, Fisher Body Detroit Div., General Motors Corp., Detroit, Mich.
Membership Committee Chairman—W. H. Frater, Cadillac Motor Car Co., Detroit, Mich.
Poster Committee Chairman—L. C. Roberts, Nash Kelvinator Corp., Detroit, Mich.
Program Committee Chairman—V. I. Trotter, Plymouth Div., Chrysler Corp., Detroit, Mich.
Publicity Committee Chairman—H. A. Zachari, Henry Vogt Machine Co., Louisville, Ky.
Statistics Committee Chairman—C. W. Bishop, Lycoming Manufacturing Co., Williamsport, Pa.
Members at Large—
*L. E. Averill, Chicago Eye Shield Co., Detroit, Mich.
*M. A. Clark, U. S. Rubber Products, Inc., Detroit, Mich.
*Hoyt L. Fracher, Detroit Steel Products Co., Detroit, Mich.
*G. A. Kuechenmeister, Dominion Forge & Stamping Co., Walkerville, Ont., Canada.
*M. J. McCarthy, Fisher Body Detroit Div., General Motors Corp., Detroit, Mich.
*H. L. Sain, Industrial Commission of Ohio, Columbus, Ohio.
*Carl L. Storck, Delco Products Div., General Motors Corp., Dayton, Ohio.
*R. F. Thalner, Buick Motor Co., Flint, Mich.
*C. T. Winegar, Chrysler Corp., Detroit, Mich.
*Past General Chairman

Officers 1939-1940

General Chairman—J. C. Bower, Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.
Vice-Chairman—L. G. Seaton, General Motors Corp., Detroit, Mich.
Secretary—V. I. Trotter, Plymouth Div., Chrysler Corp., Detroit, Mich.
News Letter Committee—F. R. Cooper *(Chairman)*, Chrysler Corp., Detroit, Mich.
W. T. Buckeridge, Nash-Kelvinator Corp., Detroit, Mich.
W. H. Marshall, Yellow Truck & Coach Co., Pontiac, Mich.
Engineering Committee—David Mould *(Chairman)*, General Motors Corp., Detroit, Mich.
R. R. Bozell, Whitehead & Kales, Ecorse, Mich.
*R. A. Shaw, Murray Corp. of America, Detroit, Mich.
Health Committee—Dr. A. L. Brooks *(Chairman)*, Fisher Body Detroit Div., General Motors Corp., Detroit, Mich.
Dr. John W. Hilbert, The Studebaker Corp., South Bend, Ind.
Dr. S. F. Meek, Chrysler Corp., Detroit, Mich.

Membership Committee—L. B. Loomis *(Chairman)*, Ternstedt Manufacturing Div., General Motors Corp., Detroit, Mich.
Poster Committee—L. C. Roberts *(Chairman)*, Nash-Kelvinator Corp., Detroit, Mich.
Howard Mantiry, Truscon Steel Co., Youngstown, Ohio.
Meredith Silvar, A. C. Spark Plug Div., General Motors Corp., Flint, Mich.
Program Committee—C. E. Woolever *(Chairman)*, Buick Motor Div., General Motors Corp., Flint, Mich.
C. W. Bristor, Lycoming Manufacturing Co., Williamsport, Pa.
C. B. Cornell, Chrysler Corp., Detroit, Mich.
Publicity Committee—H. A. Zachari *(Chairman)*, Henry Vogt Machine Co., Louisville, Ky.
G. U. Honser, Elk Tanning Co., Ridgway, Pa.
Robert H. Erwood, Budd Wheel Co., Detroit, Mich.
Statistics Committee—Oscar Lehman *(Chairman)*, Chrysler Corp., Jefferson Plant, Detroit, Mich.
George Starling, Harrison Radiator Corp., Lockport, N. Y.
Members at Large
*L. E. Averill, Chicago Eye Shield Co., Detroit, Mich.
*W. A. Bechill, Chrysler Corp., De Soto Div., Detroit, Mich.
*M. A. Clark, U. S. Rubber Co., Detroit, Mich.
*Hoyt L. Fracher, Detroit Steel Products, Detroit, Mich.
*G. A. Kufchenmeister, Dominion Forge & Stamping Co., Walkerville, Ont., Canada
*M. J. McCarthy, Fisher Body Detroit Div., General Motors Corp., Detroit, Mich.
*H. L. Sain, Industrial Commission of Ohio, Columbus, Ohio.
*Carl L. Storck, Delco Products Div., General Motors Corp., Dayton, Ohio.
*R. F. Thalner, Buick Motor Div., General Motors Corp., Flint, Mich.
*C. T. Winegar, Chrysler Corp., Detroit, Mich.
*Past General Chairman

TUESDAY AFTERNOON SESSION

October 17, 1939

The first session of the Automotive and Machine Shop Section was called to order by Vice-Chairman John C. Bower, Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., who presided. After proceeding with the formal election of officers for the current year, a list of these being given above, the Chairman introduced the first speaker on the scheduled program.

General Machine Shop Hazards and Their Correction

By HARRY L. SAIN

Special Representative, Division of Safety and Hygiene, Industrial Commission of Ohio, Columbus, Ohio

Suppose I were to tell you that a fearful catastrophe has befallen Asbury Park, that beautiful little city on the coast of New Jersey. Suppose I were to tell you that of the 11,891 inhabitants of this community, only 887 came through the calamity unscathed. Suppose I were to tell you that one of the unbridled forces of nature had caused death to 11 people, permanently disabled 50 others, put 1,168 in the hospitals and slightly injured 8,390 of the remaining inhabitants.

It is needless to say you would be interested. Yet at the risk of being deemed heartless and unsympathetic, I ask you—Why should we be disturbed by the causes or the aftermath of a catastrophe with only 9,619 casualties, including a little thing like 11 lives sacrificed and 50 people maimed for life? Are we really concerned about such things?

It certainly should not deeply interest the machine shop owners and employees in Ohio, because the figures I have been quoting represent the toll levied against machine shop employees of the State of Ohio in 1938, and if anybody has been distressed about it no one has brought it very vividly to my attention. As a matter of fact, none of us has given more than a passing thought to this casualty list that has grown up in your own ranks within the space of one year.

The point is just this. We are all too prone to be impressed by the *circumstances* surrounding death and injury, rather than by the fact of death and injury and the tremendous influence these accidents exert upon productive capacity, economic standards and the lives and happiness of our industrial workers.

Causes

Our statistical records show that machine shop accidents, in the majority, year after year have the same six causes. Accidents are like fashions; some fashions go on year after year. What are the causes of machine shop accidents in Ohio?

1. Machinery	4,483 accidents
2. Handling Objects	1,183 accidents
3. Hand Tools	894 accidents
4. Flying Particles	820 accidents
5. Stepping upon or Striking against Objects	741 accidents
6. Falls of Persons	449 accidents
Total number of days lost	117,407
Per cent of days lost by the six major causes	89.1

These causes are closely related to other chief causes, namely, Faulty Environment and Faulty Human Behavior. These two classes can be further subdivided into mechanical and personal causes such as—

(a) Improper guarding.
(b) Defective substances and equipment.
(c) Hazardous arrangement of machinery, tools and equipment.
(d) Improper and poor illumination
(e) Improper clothing or apparel.
(f) Improper heating and ventilation
(g) Physical or mental defect
(h) Lack of knowledge or skill.
(i) Wrong attitude.
(j) Selection, direction and proper training of the workers.

It may seem silly for me to enumerate these causes; you know them well. You have heard them year after year and have said, "Oh well, it's the same old story." So you go back home and do nothing about it. You know the trouble is not with the problem, it is with you and me. If you ask a four year old boy, "What is the sum of 2 and 2?" and he tells you he does not know, the trouble is not with the problem, it is with the boy. He has not acquired sufficient knowledge.

I have given you the six main causes of accidents in the machine shops of Ohio. However, the second part of the subject assigned to me, "Their Correction" is apparently where we all fail. To sum this correction problem up in a few words, I might say, as Huxley once said: "Knowledge is not the main objective in life; it is action we need."

A Psychological Problem

While accident prevention effort is designed primarily to protect the physical welfare of the worker and cannot be too heavily emphasized in our safety work, there is, however, an important economic angle that should not be overlooked.

One of the problems confronting safety agencies is just how to place their finger upon definite proof that lives and money have been saved by their activities.

We who are constantly engaged in the work of gathering and analyzing accident statistics know that there is a certain fluctuation in accident trends. In some measure this is unaccountable, but if the records are given close scrutiny I believe you will find that epidemics of accidents can be easily traced to two sources; lack of safety methods, and a laxity in safe practices.

Too often, both industrial groups and individual concerns that take up accident prevention work are too easily disheartened by seeming futility of their efforts. They seem to expect that an adverse accident experience accumulated over a period of years can be wiped out by a few months of effort when, as a matter of fact, it is a long, uphill climb. To meet this long climb, it

line. The gasoline had spilled over the spot welder and burned him fatally.

There are two instances of lack of forethought in this accident: the first being that the seriousness of horseplay had not been properly brought home to the workmen; and secondly, lack of forethought by the person who had placed some gasoline in this fire pail and then left it around loose.

Recently a large plant had occasion to have a wall painted and hired an outside concern to do the job. It was only a one-man job and after he had set up a hanging scaffold and was about to start work, a foreman of this plant who had watched him purely out of personal curiosity, asked him whether he had a safety belt to use while on the scaffold. The man replied "No." The foreman then offered to let him use one which they had in the plant if the man cared to. The repair man said he would like to use it and he did. Within five minutes from the time he got up on the scaffold, something happened to cause the scaffold to fail and down it came. The man, however, was saved from a 35 foot fall by the safety belt.

Certainly here was advanced planning. Here was a foreman who had been trained to do a thinking job on each job. In fact "This Job of Safety" had been so well brought home to him by his company's safety activities that he didn't stop with advance planning on his own work but even carried it to an outsider.

In conclusion—the main tool needed in advanced planning is our imagination. On our regular production line work where the operations are of a repetitive nature, get off in a corner somewhere for a half hour or an hour each week and watch, study, and analyze the actions and the way particular operations are performed by your employees. You may be astounded at the number of improvements which can simplify the production operations and tend to eliminate accidents which, after all, are merely outgrowths of inefficiency.

This advanced planning is the thinking through of the job details before the job is started, making sure that the probable accident hazards or incorrect ways of doing the job are recognized and corrected accordingly.

The correction phase of advance planning is best accomplished by personal contact between worker and boss. Make your plans of educating and training more on the individual and informal basis of man-to-man discussions about the right way of doing the specific job.

ADJOURNMENT

Cement and Quarry Section

Officers 1938-1939

General Chairman—Fred B. Hunt, Dewey Portland Cement Co., Davenport, Iowa
Vice-Chairman—P. N. Bushnell, Missouri Portland Cement Co., St. Louis, Mo.
Vice-Chairman—Th. Avnsø, Lone Star Cement Corp., New York, N. Y.
Secretary—A. J. R. Curtis, Portland Cement Assn., Chicago, Ill.
News Letter Editor—Jack Dempster, Canada Cement Co., Ltd., Montreal, P. Q., Canada
Engineering Committee Chairman—Wm. Moeller, Lone Star Cement Corp., Dallas, Texas.
Highway Committee Chairman—M. A. Kofeman, Southwestern Portland Cement Co., Los Angeles, Calif.
Membership Committee Chairman—*H. A. Reninger, Lehigh Portland Cement Co., Allentown, Pa.
Poster Committee Chairman—H. F. Yotter, The General Crushed Stone Co., Easton, Pa.
Program Committee Chairman—W. M. Powell, Medusa Portland Cement Co., Cleveland, Ohio.
Publicity Committee Chairman—M. P. Greer, Marquette Cement Manufacturing Co., Cape Girardeau, Mo.
Statistics Committee Chairman—W. W. Adams, U. S. Bureau of Mines, Washington, D. C.
Members at Large—
V. P. Ahearn, National Sand & Gravel Assn., Washington, D. C.
*Wm. H. Baker, J. E. Baker Co., York, Pa.
E. D. Barry, Universal Atlas Cement Co., Chicago, Ill.
J. R. Boyd, National Crushed Stone Assn., Inc., Washington, D. C.
*R. B. Fortuin, Pennsylvania-Dixie Cement Corp., Nazareth, Pa.
*Alexander Foster, Jr., Warner Co., Philadelphia, Pa.
*O. M. Graves, The General Crushed Stone Co., Easton, Pa.
E. Posselt, Lone Star Cement Corp., New York, N. Y.
S. W. Stauffer, National Lime Assn., Washington, D. C.
*F. E. Town, Medusa Portland Cement Co., Manitowoc, Wis.
*A. L. Worthen, The New Haven Trap Rock Co., New Haven, Conn.
*J. B. Zook, Great Lakes Portland Cement Corp., Buffalo, N. Y.
*Past General Chairman

Officers 1939-1940

General Chairman—P. N. Bushnell, Missouri Portland Cement Co., St. Louis, Mo.
Vice-Chairman—R. A. Dittmar, Universal Atlas Cement Co., Hudson, N. Y.
Vice-Chairman—*O. M. Graves, The General Crushed Stone Co., Easton, Pa.
Secretary—A. J. R. Curtis, Portland Cement Assn., Chicago, Ill.
News Letter Editor—Jack Dempster, Canada Cement Co., Ltd., Montreal, P. Q., Canada.
Engineering Committee Chairman—*J. B. Zook, Great Lakes Portland Cement Corp., Buffalo, N. Y.
Membership Committee Chairman—*Henry A. Reninger, Lehigh Portland Cement Co., Allentown, Pa.
Program Committee Chairman—H. F. Yotter, The General Crushed Stone Co., Easton, Pa.
Publicity Committee Chairman—David Adam, Lawrence Portland Cement Co., Northampton, Pa.
Statistics Committee Chairman—W. W. Adams, U. S. Bureau of Mines, Washington, D. C.

Members at Large

TH AYNSOR, Lone Star Cement Corp., New York, N. Y.
•W. H. BAKER, J. E. Baker Co., York, Pa.
F. D. BARRY, Universal Atlas Cement Co., New York, N. Y.
J. R. BOYD, National Crushed Stone Assn., Inc., Washington, D. C.
•R. B. FORTON, Pennsylvania Dixie Cement Corp., Nazareth, Pa.
•ALEXANDER FOSTER JR., Warner Co., Philadelphia, Pa.
•F. B. HUNT, Dewey Portland Cement Co., Davenport, Iowa
S. W. STAUFFER, National Lime Assn., Washington, D. C.
•E. E. TOWN, Medusa Portland Cement Co., Manitowoc, Wis.
•A. L. WORTHEN, The New Haven Trap Rock Co., New Haven, Conn.

•Past General Chairman

TUESDAY AFTERNOON SESSION

October 17, 1939

The opening session of the Cement and Quarry Section was called to order by P. N. Bushnell, Missouri Portland Cement Company, St. Louis, Mo., and Vice-Chairman of the Section, who presided. Mr. Bushnell made a brief report upon activities of the Section during the year, and then proceeded with the election of officers, a list of whom is given above. The Chairman then introduced the first speaker.

Analysis of Cement and Quarry Accident Experience

By I. F. LE GORE

Safety Engineer, Portland Cement Association, Chicago

There seems to be no question that 1939 will be the safest year in cement industry history. And there is reason to believe that the new low accident frequency rate will keep Cement in the position it has held for the past two years as the second safest among 30 industries reporting to the National Safety Council.

The cement industry "put on the pressure" during the first half with gratifying results, and saw the accident trend continue the downward course which has been uninterrupted since late in 1936. The accident frequency rate, or score, for the first half of 1939 was 4.00 per million man hours; the severity rate was at the unprecedented low level of 1.42. This frequency rate was 13 per cent lower than the rate of 4.61 for the year 1938; the severity rate was 42 per cent lower than last year's rate of 2.44.

At the end of the third quarter the industry had slipped a bit. A new high for the year of 18 accidents was reported during August, and 19 injuries were reported in September.

With operations continuing about 18 per cent above last year, the average of accidents reported for 8 months had advanced to 14, exactly the same as the average for the first 8 months last year. This was for 130 plants, however, compared with 119 plants previously.

Greater mill activity appears not to have been responsible for the rising tide during the past two months, for August activity was only 3.5 per cent above production for the Campaign month of June, according to data from the U. S. Bureau of Mines. And yet there were 80 per cent more accidents in August and September than there were in June.

"Pressure" Was Applied

Most of you are familiar with the annual June No-Accident Campaign sponsored by the Portland Cement Association, which has contributed so much to our industry's safety progress. The 1939 Campaign covered the 3-month period, April, May and June, and was in a large measure responsible for safety progress made during the first half.

A model activities schedule for the campaign was prepared by the Association's Accident Prevention Bureau, and was intentionally made so full that no one plant could well follow it to the letter. The plan was such that almost any size program could be selected to meet individual needs. A valuable feature was a series of safety check lists used by members as yardsticks against which to measure safeguarding and safe practices standards. Emphasis was placed on the 4 danger spots which have been found to contribute so much to the severity of injuries.

Severity

You will recall that at last year's safety congress the results of an intensive study of injury severity were outlined. Declared to be the most arresting fact and the biggest safety problem facing the cement industry was the disproportionately high severity of injuries compared with the experience of comparable heavy industries. Over more than a quarter-century of organized safety work the number of accidents per million man hours was reduced 95 per cent. But reduction in severity of injuries has not kept pace.

The study showed that for years over 90 per cent of our industry's severity rate has been produced by the time charges for the three classes of injuries termed severe, namely, fatalities, permanent total and permanent partial disabilities. Analysis of severe injuries reported during the past five years indicated that four top danger spots in cement plants have contributed almost three-quarters of all fatalities and permanently crippling injuries. Last year the unusually large proportion of 90 per cent of such injuries were shown to be attributable to the four danger spots.

These producers of excessive injury severity are: moving machinery, high places (falling men and objects), electricity, and railroad. Last year moving machinery was responsible for almost half of all deaths and permanent injuries. High places accidents contributed almost one-fourth of them, electricity one-tenth and railroad more than 7 per cent.

The Committee on Accident Prevention and Insurance accepted the conclusion that each of the four danger spots represents an environmental problem the solution which could reasonably be expected to reached by engineering measures. It thorized continued research into the cau of excessive injury severity and sugges that safeguarding measures and safe pr fices be stepped up, with particular phasis on the four chief causes.

This was done in the series of 2 gional safety meetings held in strategic located cities all over the United States attended by all but a handful of plant ecutives. It was done by means of series of safety check lists prepared dur the June Campaign. Additions and s gestions were included in the pages of Monthly Accident Round Table and monthly Clip Sheet of Safety Items of terest for use as discussion topics in pl safety meetings and in plant safety new papers. Successive issues of Accident P vention Magazine carried the story. series of posters starring the cement dustry's safety mascot, "Andy Seezit," f ther emphasized them at Campaign time

Results Gratifying

What has been the result? It is mu too early to evaluate properly the effect this program to reduce injury severity oth than to say that apparently we are on t right track. An estimated 42 per cent duction in six months is no mean accom plishment; for severity largely determin the cost of accidents.

In the first 8 months of 1938, 15 ceme men were killed or permanently injured contact with moving machinery, only o less than were seriously hurt by machin in the entire 12 months of 1937. In t first 8 months of 1939, however, only cementmen were killed or permanent crippled by moving machinery. Five mair ing machinery injuries have been averte although accidents from 11 more ceme plants are represented in the data, and m activity is 18 per cent above last year.

In the 8-month period ended in Augus six men have been injured seriously in fal ing from one level to another or bein struck by something falling upon ther from an upper level. This is one less suc an injury than last year. Two have bee killed in high places accidents whereas th lives of three were lost in the same perio previously.

In the first eight months of last year tw