PLAINTIFF'S EXHIBIT

NSC-51a

1964 National Safety Congress Transactions

Volume 1

GENERAL SESSIONS

ANNUAL MEETING OF MEMBERS

CONGRESS BANQUET

LIST OF EXHIBITORS

GENERAL INDEX OF ALL VOLUMES

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Industrial clothing.

Advance Glove Mfg. Co., 901 W. Lafayette Ave., Detroit 26
Industrial work gloves and clothing.

Aetna Life Affiliated Companies, 151 Farmington Ave., Hartford 15, Conn.
Safety films and safety pamphlets.

Air Space Devices, Inc., 5428 Vineland Ave., N. Hollywood, Calif.
A safety device for protection from falling when climbing.

Akron Brass Co., 1450 Spruce St., Wooster, Ohio.
Fire fighting equipment and accessories.

Alan Wood Steel Co., Conshohocken Road, Conshohocken, Pa.
Abrasive rolled steel floor plate.

American Allsafe Co., Inc., 1245 Niagara St., Buffalo, N. Y. 14213
Drybrow sweatbands, nylon fan guards and related products.

American Biltrite Rubber, 22 Willow St., Chelsea 50, Mass.
A complete line of safety soles and heels.

American Chain and Cable Co., Inc., 929 Connecticut Ave., Bridgeport 2, Conn.
Sling chains and sling chain assemblies, wire rope slings and assemble-your-own wire rope slings.

American Industrial Safety Equipment Co., 3500 Lakeside Ave., Cleveland 14
Welding and cutting goggles, spectacles, welders' lenses, hard hats, visitors' spectacles, and goggle clips.

American LaFrance, 100 E. LaFrance St., Elmira, N. Y.
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American Optical Co., 14 Mechanic St., Southbridge, Mass.
Head, eye, respiratory, protective devices; safety clothing; safety specialty products.

American Seat Belt Council, 271 North Ave., New Rochelle, N. Y.
An association of independent manufacturers of seat belt assemblies and component parts formed to maintain industry standards.

American Society of Safety Engineers, 5 N. Wabash Ave., Chicago 2
Professional society.

Ampco Metal, Inc., 1791 S. 38th St., Milwaukee 1
Hand tools of spark-resistant alloys for use in explosive or flammable conditions.

Lyn Products, Inc., 44 Industrial Road, Crystal Lake, Ill.
Magnetic safety switch.

Lynrus Finishing Co., Inc., South Water at Union St., Poughkeepsie, N. Y.
Flame retardant process for safety clothing.

Thom McAn Shoe Co., 25 W. 43rd St., New York 36
Safety shoes.

Julian A. McDermott Corp., 1639 Stephen St., Ridgewood, Brooklyn 27, N. Y. 11227
Warning and safety lighting for municipal, industrial and utility use.

McQuarrie Enterprises, 6029 Washington Blvd., Culver City, Calif.
Automobile safety belts.

Machinery Center, Inc., 1201 S. 6th West, Box 964, Salt Lake City 10
Sala Safety Block.

Madison Chemical Corp., 35 S. 19th Ave., Maywood, Ill.
Solvents, herbicides, organic digestives, degreasers, cleaners, detergents, winter chemicals, insecticides, water and fuel treatments.

Magid Glove Mfg. Co., Inc., 2201 W. Wabansia Ave., Chicago, Ill. 60647
Industrial gloves.

Martindale Electric Co., 1375 Hird Ave., Cleveland 7
Protective masks and refills, protective eyeshields, and electrical testing instruments.

Medical Supply Co., 1027 W. State St., Rockford, Ill.
First aid kits and accessories. Resuscitation training aids, stretchers.

Meyer Machine Inc., Box 114, Red Wing, Minn.
Safety products for the protection of person while climbing.

Micro Switch, A Division of Honeywell, 11 W. Spring St., Freeport, Ill.
Safety interlock switches and electric controls for power machines.

Miller Allied Corp., 2425 Santa Clara Ave., Alameda, Calif.
Material handling slings and adjustable lifting safety beams.

Miller Equipment Co., Inc., 13th and New Sts., Franklin, Pa.
Linemen's safety equipment and accessories.

Millers Falls Co., 57 Wells Street, Greenfield, Mass. 01301
Shockproof power tools.

Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh 8
Complete line of safety equipment for industry and mining.

Minnesota Mining and Mfg. Co., 2501 Hudson Road, St. Paul 19
Filter mask, heat reflective fabric, abrasive flooring, safety masking tape.

Mott Corp., 500 Shawmut Ave., LaGrange, Ill.
Safety mowers.

Stephenson Corp., Box 1000, Red Bank, N. J.
Radar speed control, breath test for intoxication, resuscitator.

Stephen-William Co., 2014 W. Wabansia Ave., Chicago 47
Safety signs and posters.

Stonehouse Signs, Inc., 842 Larimer St., Denver 4
Accident prevention signs and tags.

Stop-Fire, Inc., New Brunswick, N. J.
Fire extinguishers.

Surety Rubber Co., North High St., Box 97, Carrollton, Ohio 44615
Safety apparel, gloves, sleeves, aprons, and specialized protective equipment.

Survivair, Division of U. S.-Divers Co., 3323 W. Warner Ave., Santa Ana, Cal.
Self-contained breathing equipment. Wet pick-up vacuum unit. Voice amplifiers.

S. G. Taylor Chain Co., Inc., 3-141st St., Box 508, Hammond, Ind.
Alloy steel chain and fittings.

Tisco Corp., 1643 Door St., Toledo, Ohio
Cleaning and repairing of work gloves and safety equipment.

Titmus Optical Co., Inc., 1015 Commerce St., Petersburg, Va. 23804
Safety frames, safety lenses and vision tester.

Tri-Tix, Inc., 100 N. Lake St., Port Washington, Wis.
Safety cones and traffic posts.

U-C-Lite Mfg. Co., 290 E. Prairie St., Crystal Lake, Ill.
Battery-operated electric hand lanterns, flashers and emergency lights.

Union Steel Products Co., 640 N. Berrien St., Albion, Mich.
Wire mesh "Palletainers" for storage, transporting, and handling of finished or in-process material.

United States Rubber Co., 1230 Avenue of the Americas, New York 20
Safety footwear.

United States Safety Service Co., 1535 Walnut St., Kansas City, Mo. 64108
Industrial eyewear and hearing protection.

A. G. Vara & Son, Inc., 53 Clark St., Hamburg, N. Y.
Octopus safety markers, safety flags.

Wagner Sign Service, Inc., 218 S. Hoyne Ave., Chicago 12
Changeable copy displays for employee relations and safety programs.

Watchemocket Optical Co., Inc., 232 W. Exchange St., Providence 3, R. I.
Safety goggles, respirators, face shields and safety signs.

Welsh Mfg. Co., 9 Magnolia St., Providence 9, R. I.
Respirators, safety spectacles, goggles, safety hats, faceshields, and welding helmets.

R. D. Werner Co., Inc., Box 580, Greenville, Pa.
Nonconductive fiber glass ladders, stages, and scaffolds.

Westinghouse Electric Corp., 2519 Wilkens Ave., Baltimore 3
Portable pneumatic pump unit for closed chest cardiac resuscitation.

Wheeler Protective Apparel, Inc., 224 W. Huron St., Chicago 10
Industrial safety apparel.

Whelen Engineering Co., Inc., 42 Kirtland St., Deep River, Conn.
Emergency and warning lights, flashers, and beacons.

Williams Jewelry and Mfg. Co., 4544 N. Western Ave., Chicago, Ill.
Safety plaques, trophies, awards, emblems, badges, and incentives.

Willson Products Div., Ray-O-Vac Co., 2nd and Washington Sts., Reading, Pa.
Personal protective equipment for industry.

The Wilson Rubber Co., 1200 Garfield Ave. S.W., Canton, Ohio 44701
Rubber, neoprene, and plastic gloves.

Wire Rope Corp. of America, Inc., 609 N. 2nd St., St. Joseph 1, Mo.
Wire rope slings.

Daniel Woodhead Co., 15 N. Jefferson St., Chicago
Electric safety equipment.

Worklon, Inc., 63 New York Ave., Huntington, N. Y.
Special purpose clothing—acid-resistant, lint-free, static-free and fire retardant.

AFL-CIO, 1200-15th St., N. W., Washington, D. C.
Information on their safety activities with appropriate literature.

American Optometric Association, 4030 Chouteau Ave., St. Louis 10
Educational material on vision and highway safety, and industrial safety techniques.

Chicago Fire Department
Information on the work of the Fire Prevention Bureau.

Chicago Police Dept., Traffic Div.
Traffic safety.

Dept. Health, Education & Welfare, Public Health Service,
Third & C Sts., N. W., Washington, D .C. 20201
"50 Years of Protecting the Worker's Health"

Federal Safety Council, U. S. Dept. of Labor,
First & D Sts., N. W., Washington, D. C. 20212
President's Safety Award Programs.

1964

National Safety Congress Transactions

Volume 2

AEROSPACE; AIR TRANSPORT INDUSTRIES

NATIONAL SAFETY COUNCIL
425 N. Michigan Avenue
Chicago, Illinois 60611

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1964

National Safety Congress Transactions

Volume 3

AUTOMOTIVE and MACHINE SHOP; POWER PRESS and FORGING

NATIONAL SAFETY COUNCIL
425 N. Michigan Avenue
Chicago, Illinois 60611

an additional die has been added so that we are able to do a first and second forming operation in each stroke of the press.

The piece is fed down the slide to the first die by gravity and automatically positioned in it. After a stroke of the press, the completed piece is raised out of the first die and, again, by gravity, is fed down to a second die where a second forming takes place on the next stroke. After that, it is ejected out the back of the press.

The dies are completely enclosed and all danger spots where an operator may become injured are guarded. This, I believe, is a perfect example of a method of solving a power press guarding problem in a manner where we ended up with a solution which can be placed in the mature stage of development.

I have often heard the excuse made that by installing a certain type of guard, production would be adversely affected and, therefore, cannot, be justified. This is a very poor excuse for not providing 100 per cent protection. A properly engineered and well planned guarding installation will generally end up with an increase in production. The ultimate per cent of increase will, in many cases, be a very pleasant surprise. In our own case, we were able to increase production by as much as 300 per cent over the method which I described as being in the infancy stage.

I have also heard the argument advanced that, "ours is a little shop and cannot afford such elaborate changes." This I would like to twist around to say, "that you cannot afford not to make the change." We have been able to pay for all changes to the dies, to the press, and the making of the guards, in just an eight week period by the increase which was made in production.

I do not wish to convey the idea that the example which I showed you is the only method by which one can achieve maturity in a guarding program. It is realized that it cannot be applied to many operations. It is also realized that there are many other methods of guarding which offer as complete protection as this. The only point I wish to stress is this, are we all taking advantage of what is available and have you a guarding program where the safety of your operations can be trusted to stand by itself as completely as a fully matured, independent individual.

There are many power press guards on the market which offer complete protection. There are complete enclosure guards, air operated guards, electronically controlled guards and many others; all available to us. By careful selection and intelligent application of these guards a good mature program can be yours.

When at your plant I believe a survey of each power press would be in order. While making such a survey ask yourself the questions. "am I still in the Model T era or am I keeping pace with the changing times? and Are my power press guards in the infancy, adolescence or mature stage?" We should be satisfied with nothing but the best and the best is only that which is mature.

THE TEAM APPROACH TO POWER PRESS SAFETY

By F. P. MARRON

Supervisor, Industrial Engineering, Westinghouse Electric Corp., Beaver, Pa.

My part of the discussion will center around how power press safety is considered in the purchase of capital equipment and tooling which is used in this equipment.

To keep the equipment and tools properly associated with one another, I will discuss four (4) categories:

1. Automatic Operation
2. Semi-Automatic Operation
3. Hand Operation
4. Miscellaneous

A. *Automatic Operation* refers to equipment and tools which do not require con-

The selection of themes for displays or demonstrations should be determined by the programming needs of an individual plant or location. It is recommended that consideration be given to the inclusion of activities which contemplate off-the-job accident exposures as well as those that apply to work-connected problems.

THE TEAM APPROACH TO POWER PRESS SAFETY

By WILLIAM J. KIRSCH
Supervisor of Safety, Westinghouse Electric Corporation, Beaver, Pa.

We have titled our program, "The Team Approach to Power Press Safety", because we believe that power press safety is not a one man responsibility or even solely a press room reponsibility. It must be a team effort and all departments must contribute. We will show you how the different staff groups in our plant assist in making our plant one of the safest in power press operations.

We believe we can speak with authority on this subject since we have approximately 190 power presses, and small bench presses too numerous to count. The bench presses are of the spring, air and hydraulic variety, with a good number of air operated, rivet squeezers thrown in for good measure. Practically all of these operations are capable of producing amputations or smashed fingers unless guards or other safety procedures are set up.

Incidentally, most of our problems concern these small presses. For many years Westinghouse has sponsored one of the most thorough accident prevention programs in industry. Our efforts are based on the premise that accidents are preventable and our experience has borne out this premise. By maintaining safe conditions and providing safe materials and equipment our company has been successful in substantially reducing the frequency and severity of accidents and injuries.

In our plant we follow the Westinghouse Six Point Safety Program. These six points are:

1. Organization and Administration
2. Hazard Control
3. Industrial Hygiene
4. Training
5. Motivation
6. Accident and Injury Statistics

Let us take a look at the first point "Organization and Administration." How does this point contribute to Power Press Safety?

Organization—I believe you will agree that for any safety program to succeed, you must have the complete cooperation and backing from top management. You cannot function efficiently without it. The head of our safety organization is our general plant manager. Next in line is the Safety Policy Committee. Members of this must be men who can make decisions and set policy. We have a 15 member committee with the works manager serving as chairman and I serve as secretary.

The other 13 members are on the general manager's staff or head up the various staff functions such as quality control, production, manufacturing, industrial engineering, works engineering, plant protection, and shipping and warehousing. This group, as the name implies, sets the plant's safety policy and provides the backing to make it work. The committee meets on the second Thursday of each month, and attendance is mandatory if the member is in the plant. I might add, no meeting has ever been cancelled in the ten years I have been a member of the committee.

Next we have the General Safety Committee. There are twelve members on this committee. All are line supervisors from the operating level of the plant. I am the chairman and there are three other permanent members. We rotate the eight remaining members of the committee. There are six supervisors from manufacturing, one from shipping, and one from the tool and die

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1964

National Safety Congress Transactions

Volume 4

CEMENT, QUARRY & MINERAL AGGREGATES

NATIONAL SAFETY COUNCIL
425 N. Michigan Avenue
Chicago, Illinois 60611

RAILROADS

By DAVID HARTLEY

Division Superintendent, Taconite Minnesota Ore Operations, United States Steel Corp., Mountain Iron, Minnesota

Inasmuch as the principles of railroading are the same in both quarries and open pit mines, I am taking the liberty of using reference material from both sources for this presentation.

Safety first enters the picture of a quarry railroad operation at the planning stage. Such details as grades, curves and traffic patterns must be first considered from the standpoint of safety.

a. *Grades.* Generally speaking, the lesser the grades, the safer the operation. Accident experience has disclosed the desirability of limiting grades to a maximum of 3 percent. As a rule, economics promote safety by directing the selection of truck, conveyor or skiphoist haulage when grades exceed this figure. In fact, rail haulage is most attractive, both from the standpoint of safety and economics, if the grades are not in excess of 1½ per cent.

b. *Curves* require safety attention for two reasons:

(1) possibility of derailment and (2) visibility. For mainline quarry service, curvature not to exceed 7½° is recommended. Perhaps more important that the degree of curvature itself, is proper super-elevation, and transition from the straight track to the maximum curve. For a 7½° curve, a spiral lead-in of 200 feet is indicated.

The problem of visibility, or the lack of it, resulting from curved track can be overcome to some extent by providing a safe means for either the locomotive engineer or the brakeman to ride the leading end of the train.

In summarizing, the same observation that was made regarding grades will apply to curves; the gentler the better.

c. *Traffic-Pattern.* In planning the operation, no effort should be spared to simplify the train movement, and to avoid areas and points of interference. Where merging or opposing traffic is necessary, adequate protection in the form of switch-tenders or block signal systems is required. When traffic volume justifies the installation, a properly monitored radio dispatch system can contribute to a safer operation.

A planned, formal program of maintenance of both track and rolling stock is indispensable to accident prevention.

a. *Track.* With the advent of automation of train operation and mechanization of track maintenance, fewer people, whose observations might indicate trouble spots requiring immediate track maintenance, will be on the job. If the operation is of such size that the supervisor is unable to make regularly scheduled inspections of the track system, such inspections must become the job of mobile track inspectors. Special attention must be given to condition of switch components, super-elevation of curves, low spots, observations, broken rail, etc. On high volume rail movements, this is a daily task.

b. *Rolling Stock.* A documented, periodic safety check of locomotives, cars and other rolling stock is indispensable to an acceptable maintenance program. This may be part of the routine maintenance check. To insure proper coverage, the schedule may be set up either on the basis of calendar days or hours worked.

More than any other method of transportation, the railroad requires a formal, comprehensive safety manual, or "rule book."

A copy of the manual in use at the Minnesota Ore Operations of United States Steel Corp. is available. It must not be inferred that this booklet is the answer to all your safety problems, or in fact, that it would even be suitable to your rail operation. Different situations call for different rules.

The manual is divided into sections as follows:

Responsibilities and Duties
General instructions
Signals
Movement of Trains

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