

(2)

National Safety News

Published by the National Safety Council

JANUARY

1930

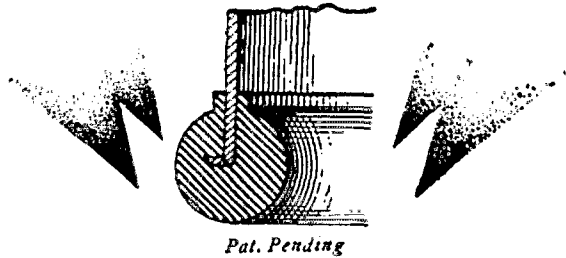


PLAINTIFF'S EXHIBIT

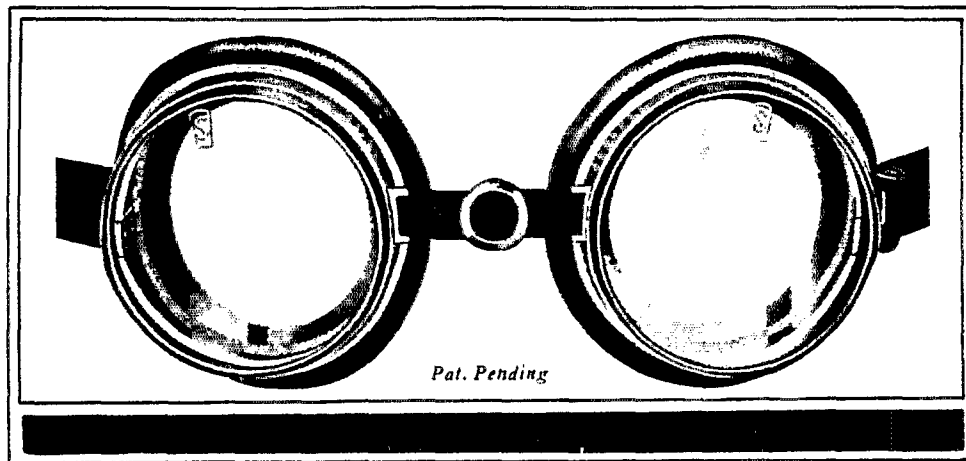
NSC-120

PROPER CLOTHING AND EXERCISE FOR BETTER HEALTH

119.749



REAL PROGRESS IN EYE PROTECTION



GUARDWELL

THE COMFORTABLE GOGGLE THAT MEN WILL WEAR

Keystone Lenses are hard to break anytime, anywhere, in any frame.

In the Guardwell frame backed up by Comfort Cushions *they are stronger than ever.* That is because the springy sponge rubber absorbs the shock of blows received on the lenses.

We'll gladly agree to replace any Guardwell, as pictured above, that breaks in service. We have tried to break them. So we know what we are talking about.



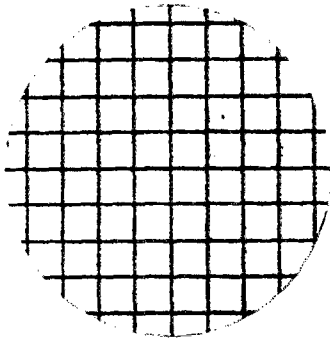
STANDARD SAFETY EQUIPMENT CO.

410 North Michigan Ave., Chicago

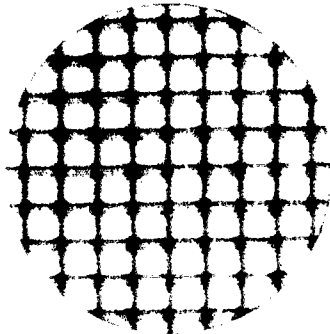
1060 Broad St., Newark, N. J.

WIDER VISION

without lens distortion



♦ ♦ ♦ A ruled paper photographed thru a Willson Super-tough lens. This lens produces no eye fatigue or headache. Can be worn continuously without removing for rest periods.



♦ ♦ ♦ Same setup as above except photographed thru a safety lens not of Willson manufacture. This lens, if worn continuously will cause eye strain and headache. By producing a fatigue period, men persist in removing them for rest periods. That's when most eye accidents happen.



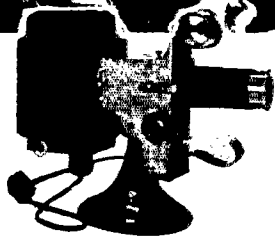
WILLSON CHIPPER'S MODEL LJ50
with 2" lenses (50 millimeters)

♦ ♦ Eye safety is largely a matter of providing comfortable goggles to your men . . . goggles that do not cause eye strain and headaches because of distortive lenses . . . with frames flexible enough to permit individual fitting . . . and properly padded to soften the contact against the face, as well as to help absorb the shock of severe blows. ♦ All of these features are found in the Willson LJ50 (above). In addition, there is the patented safety flange which tends to hold the glass in the frame if struck sufficiently hard to break . . . the anatomical shape of the cups which assures excellent fit . . . flash-proof sweat-proof padding. All of these Willson features, combined with an easy parts replacement, make LJ50 a highly desirable goggle.

Price: \$1.80 per pair
each in metal case, price f.o.b.

The entire time and energies of our whole organization are devoted to head and eye protection exclusively. As specialists in this line we shall gladly consult with you on your safety problems.

WILLSON PRODUCTS, INC.
READING, PENNSYLVANIA.
U. S. A.



PICTURES PAVE THE WAY TO SAFETY

YOU'VE read books—you've seen the characters in stories brought to life on the screen. Which do you remember most vividly? The pictures, of course.

This only goes to prove a physical fact—that when the eye visualizes an object it is registered more quickly and stays in the mind for a longer time.

Safety is a subject that must be portrayed accurately. There is no method of doing this so effectively as by pictures.

The still film projector, or stereopticon, has proved itself to be one of the outstanding factors in safety education. Surveys show that it has been of material assistance in lessening accidents.

An extensive and authentic library of 1500 film subjects is a part of the National Safety Council's service to its members. These are obtainable for use with the S. V. E. stereopticon.

Send the coupon for information regarding our service.



MANUFACTURERS, PRODUCERS AND
DISTRIBUTORS OF VISUAL AIDS

327 South La Salle St., Dept. F.

Chicago, Ill.

SOCIETY FOR VISUAL EDUCATION, Inc.
Dept. F. 327 S. LaSalle St., Chicago.

I'm interested in knowing whether your S.V.E. Stereopticon and Film Service can really help me in my safety work. Send all details.

Name

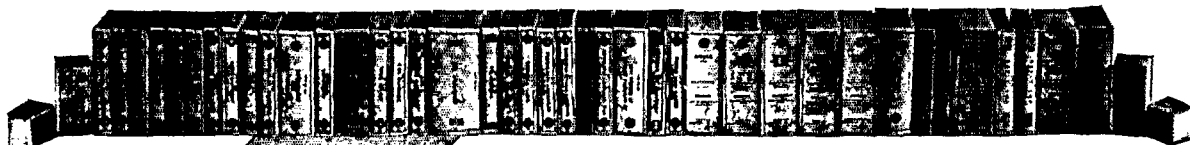
Address

Company

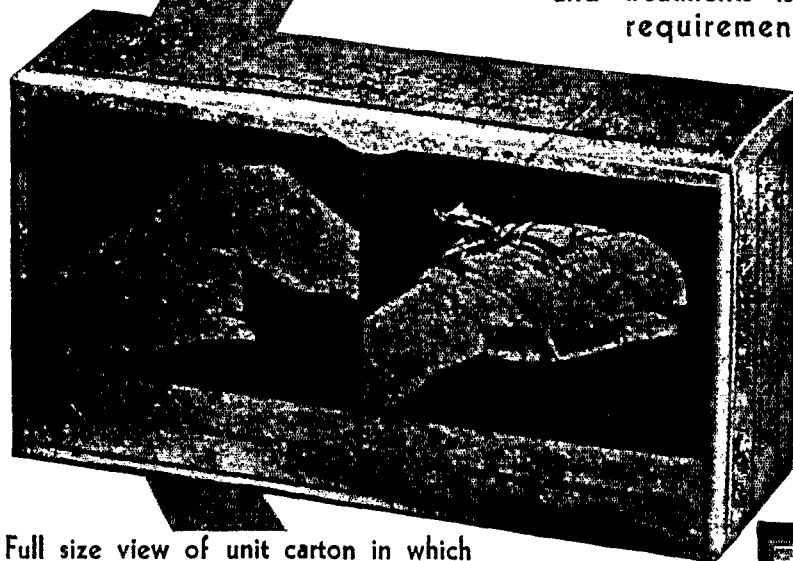
When writing advertisers, please mention NATIONAL SAFETY NEWS

SAFETY B-SAFETY-D SERVICE

For Complete Protection — **DAVIS FIRST AID KITS**



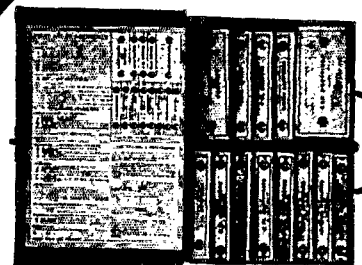
The completeness of Davis System of Emergency Equipment is shown above. This great variety of dressings and treatments is available to meet the requirements of countless injuries.



Full size view of unit carton in which Davis First Aid material is packed.

Some are in units of twice or three times this unit size. Note instructions for applying First Aid treatment in word and pictures on carton.

Showing how Davis First Aid Units fit into cabinet—like books on a shelf—everything visible and instantly accessible for action.



Keep Your Kit Complete by Having a Reserve Supply of Refills.

Complete line of Safety Equipment, Inhalators, Linemen's Safety, Hard Boiled Hats, Surgical Dressings, or any of the numerous appliances that make for Industrial Safety.

BULLARD-DAVIS INCORPORATED

67 Wall St., New York City or 275 Eighth St., San Francisco, Cal.
Please send me Bulletin No. 101 describing Davis First Aid Equipment for general industry.

Name

Company

Address

L-30

National Safety News

*Published monthly in the interest of accident prevention
and the health of industrial workers*

CARMAN T. FISH, Editor

G. M. BRIGGS, Associate Editor

STANLEY H. KERSHAW, Poster Editor

C. H. MILLER, Advertising Manager

VOLUME XXI

January, 1930

NUMBER 1

In This Issue

Safety-izing the West Penn System— <i>Carman T. Fish</i>	10
Can Foot Injuries be Avoided?— <i>Nils Juell</i>	13
Propagating Safety in the Dutch East Indies— <i>P. Krulls</i>	15
Machinery Causes Fewer Injuries— <i>G. G. Grieco</i>	17
The Executive and Safety— <i>Otho M. Graves</i>	19
Blast Furnaces Used to Be Hazardous— <i>W. S. Unger</i>	20
95,086 Accidental Deaths in 1928— <i>R. L. Forney</i>	22
They Got Results from the Start.....	23
Foot-Candles and Casualties— <i>S. A. Heman</i>	25
Character and the Car— <i>William Cole</i>	27
Health in the Plant— <i>C. O. Sappington, M. D., Dr. P. H.</i>	34
Removing the Hazards of Mechanical Refrigeration— <i>Joel I. Connelley</i>	38
Ten Years of Safety on American Railroads— <i>Thomas H. Carrow</i>	40
Where Children Get Hurt— <i>Alvan D. Batley</i>	42
Designating Equipment in Sub-stations— <i>J. W. Peart</i>	46
Will Lightning Destroy an Airplane?.....	48
Highway Lighting Increases Pedestrian Safety.....	50
Production Suffers When Safety Lags— <i>Howard A. Sheets</i>	52
Switzerland Reports Industrial Accident Experience.....	56
Harriman Medals Awarded for 1928.....	58
President's Medal Awarded to 104 During 1929.....	64
What Can We Get—Or What Can We Give?— <i>Will Cooper</i>	70

Departments

Editorial	9	Coming Events	87
The Safety Exchange.....	28	Accidental Deaths in the U. S. A.....	88
Industrial Health	44	The Safety Poster Service.....	90
New Publications	54	With the Manufacturer.....	99
Personals	62	New Members, N. S. C.....	100
The Honor Roll.....	78	The Buyers' Service.....	102

*Contents of previous issues of the National Safety News may be found by consulting
the Industrial Arts Index in your library.*

Copyright 1929 by National Safety Council. Printed in U. S. A. Published monthly. Entered as second class matter June 1, 1921, at the Post Office at Chicago, Ill., under the act of March 3, 1879.

The subscription price to members for extra copies of the NATIONAL SAFETY NEWS is \$4.00 per year. Single copies, 40 cents. Reduced quantity prices for yearly subscriptions and single copies on request.

Subscriptions are available only to members of the National Safety Council.

Member Audit Bureau of Circulation.

18,150 copies of this issue were printed.

NATIONAL SAFETY COUNCIL

Cooperative—Non-Commercial—Non-Political—Non-Sectarian

108 East Ohio Street, Chicago, U. S. A.

Office of the Education Division, 1 Park Ave., New York City

Officers of the National Safety Council 1929-30

C. Eugene Pettibone, President.
C. W. Bergquist, Vice-President for Finance.
Earl F. Blank, Vice-President for Engineering.
Charles L. Close, Vice-President for Industrial Safety.
G. T. Hellmuth, Vice-President for Membership.
Charles E. Hill, Vice-President for Public Relations.
Miller McClintock, Vice-President for Public Safety.
George Opp, Vice-President for Territorial Councils.
Albert W. Whitney, Vice-President for Education.
Dr. C.-E. A. Winslow, Vice-President for Health.
J. I. Banash, Treasurer.
W. H. Cameron, Managing Director.

EXECUTIVE COMMITTEE

Members at Large

J. I. Banash, Consulting Engineer.
C. W. Bergquist, Western Electric Co.
Earl F. Blank, Jones & Laughlin Steel Corp.
W. H. Cameron, Managing Director, National Safety Council.
Charles L. Close, U. S. Steel Corp.
F. A. Davidson, Chesebro Whitman Co.
William C. Dickerman, American Locomotive Co.
N. P. Dougherty, General Motors Corp.
H. B. Flowers, New Orleans Public Service, Inc.
Daniel Harrington, U. S. Bureau of Mines.
G. T. Hellmuth, Chicago, North Shore & Milwaukee Railroad Co.
Charles E. Hill, New York Central Lines.
J. E. Long, The Delaware & Hudson Co.
Miller McClintock, Erskine Bureau, Harvard University.
R. B. Morley, Industrial Accident Prevention Associations.
George Opp, The Detroit Edison Co.
C. E. Pettibone, American Mutual Liability Insurance Co.
Robbins B. Stoekel, Commissioner of Motor Vehicles, State of Connecticut.
J. P. Sutton, Ohio Oil Co.
Albert W. Whitney, Acting General Manager, National Bureau of Casualty and Surety Underwriters.
Dr. C.-E. A. Winslow, Yale Medical School.

Representing Territorial Safety Councils

H. O. Allison, Western Pennsylvania.
Norman Anderson, Cleveland.
T. O. Brabston, Birmingham.
Ancil D. Brown, Syracuse.
Charles E. Redfern, Providence.
T. J. Strickler, Kansas City.

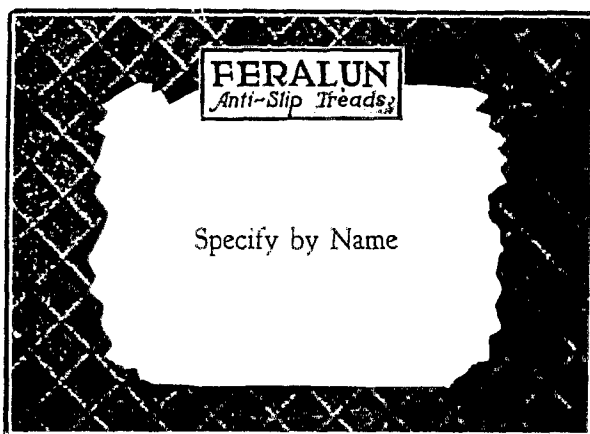
Representing Sections

Melvin W. Bridges, Electric Railway.
Will Cooper, Food.
Charles F. Larson, Steam Railroad.
Edward H. Sykes, Accident Prevention Equipment Manufacturers.
Arthur M. Tode, Marine.
John L. Vandegrift, Public Utilities.
Edward P. Warner, Aeronautical.

Past Presidents

Robert W. Campbell
Arthur T. Morey
Lew R. Palmer
Charles P. Tolman
Arthur H. Young
Marcus A. Dow
Lewis A. DeBlois
Carl B. Auel
Charles B. Scott
Walter G. King
Homer E. Niess
Henry A. Reninger

MAKE WALKING SAFE



For twenty years we have been telling you that stair treads with grooves parallel to the nosing and a slippery nosing, are unsafe.

During that time FERALUN treads, which have no grooves parallel to nosing, were the only type of "safety" tread to receive a "Grand Prize" award and have become the sole standard of many important users.

FERALUN

BRONZALUN

ALUMALUN

NAMES REGISTERED U. S. PATENT OFFICE

"There is hardly anything in this world that some man cannot make a little worse and sell a little cheaper, and the people who consider prices only are his legitimate prey." John Ruskin.

American Abrasive Metals Co., 50 Church St., New York, N.Y.

BOSTON

PHILADELPHIA

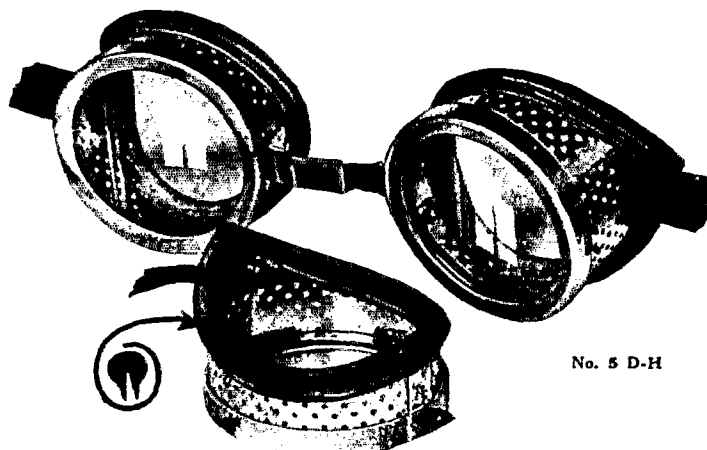
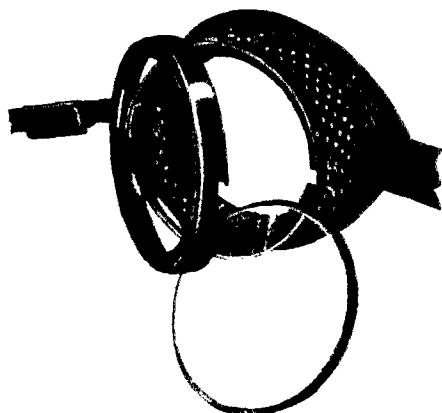
CHICAGO

PITTSBURGH

BUFFALO

40,000

GLASS EYES ARE IMPORTED ANNUALLY



No. 5 D-H

—SOME of them look real, but, unfortunately, they can't be seen through.

Loss of eyesight through industrial accidents usually can be prevented by the use of proper goggles.

Duff-Hall Safety Goggles are especially suited for industrial use because of their low cups, wide range of vision, proper ventilation, and adjustable nose-piece. They are furnished with optically clear, hardened and annealed safety, interchangeable lenses.

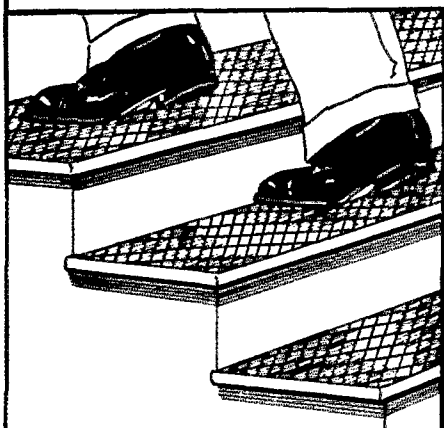
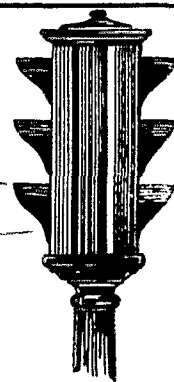
Inquiries receive prompt attention.

DUFF-HALL GOGGLE SERVICE

6 NORTH MICHIGAN AVENUE, CHICAGO, ILL.

When writing advertisers, please mention NATIONAL SAFETY NEWS

DO YOUR STAIRS SIGNAL "GO"?



Like the ever Alert Signal-lights, guiding the great lines of TRAFFIC the installation of Mason's Carbo-Cast Treads, speeds up the safety of Stair Traffic, reducing the many hazards to a minimum, and lessening the danger of Slipping by contact with the Abrasive Surfaces...

Avoid distressing ACCIDENTS by installing Now!

**CIRCULARS
and ESTIMATES
ON REQUEST**

The American Mason Safety Tread Co.

SAFETY TREAD MANUFACTURERS

Lowell, Massachusetts U.S.A.

FOR OVER THIRTY-FIVE YEARS

IZAL

The Choice for Cutting Oil Disinfection

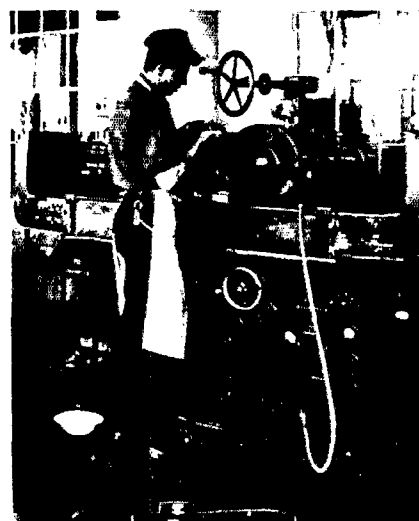
GERMS find cutting oils an excellent adjunct in their attack on mankind. Too often a good operator becomes so badly infected that he is unable to work efficiently.

Izal—a milk white emulsion consisting essentially of ingredients obtained by the careful distillation of certain grade coals—has unusual germicidal value.

Cutting oil disinfectants are often corrosive—Izal is not. Nor is it poisonous or injurious. It is one of the most powerful coal-tar germicides in the world. More than that—it is the official disinfectant of three governments, and is widely used by industries, railroads, steamship lines, hospitals, etc., throughout the world.

Izal is ideally adapted to use in general sanitation. Contamination and filth do not eliminate its effectiveness.

A sample awaits you—send the coupon today.



Abbott Laboratories,
North Chicago, Ill.

Please send me a sample of Izal, and a copy of your catalog, "The Industrial Medicine Chest."

Name

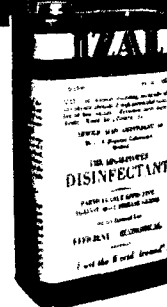
Address

Company

Abbott LABORATORIES

NORTH CHICAGO, ILL.

New York, San Francisco, Seattle, Los Angeles, Toronto,
St. Louis, Bombay.



When writing advertisers, please mention NATIONAL SAFETY NEWS

National Safety News

Published by the National Safety Council

VOLUME XXI

CHICAGO, ILLINOIS, JANUARY, 1930

NUMBER 1

A New Decade

A REMARKABLE decade is drawing to a close and it is not exaggerating to say that we are on the threshold of a still more marvelous ten years. The years since 1920 have been marked by greater progress in science and invention than any similar period of the world's history has known. Those who are in a position to speak with authority say we haven't started yet.

The twenties were a period of reconstruction. The energies that for four years had been concentrated on destruction were turned to removing the scars of war and the development of industry. Research, which had been stimulated by the demand for deadlier weapons and more effective protection, was directed to the creation of new comforts and conveniences and the methods of production which would make them available to millions. As a result we find the luxuries of the past among the necessities of today.

For better or for worse this is an age of speed. No longer is speed in itself looked upon as unmitigated evil. Automotive equipment is being constructed for reliable performance at increasingly higher speeds and modern highways are being built for swifter traffic. But highway building cannot keep pace with the growth of traffic and our city streets cannot be remodeled over night. The human element is another obstacle to speed with safety. Drivers cannot be trained with speed that automobiles are assembled.

The safety movement has grown with industry. When the war broke out it was still an experiment. It expanded with the war-time development of industry and suffered a temporary setback during the post-war deflation. Since 1921 its progress has been steady and substantial.

Ten years ago safety was more or less of an appendage to industry like a guard added to a machine. Now it is recognized as an integral part of operation, just as safety in design is becoming a fundamental principle in machine construction. From its industrial beginnings safety has branched out to include all phases of daily life. It has overcome ridicule and opposition and apathy alone remains as the serious obstacle to Universal Safety.

The safety movement will play an increasingly important part in the progress of the next decade. A large part of safety progress will be made in the laboratory but an equal amount will be decided on the job where the human element must face the hazards that even science cannot eliminate. Research will aid education but it cannot supplant it.

The history of the safety movement has been a

story of splendid cooperation, both of employees and management and of companies one with another. The National Safety Council has had the privilege of furthering this mutual helpfulness and of spreading the knowledge made available by individual members. Never has the cooperation of our members been so freely given as during the past year and we take this opportunity to express our gratitude and our wishes for a successful and happy New Year.

Is Civilization So Complex?

THE complexity of our modern civilization is a common complaint of those who look with longing at the simple life of the savage. But is the primitive life as simple as it looks?

True, the savage need not worry about the stock market, prohibition, styles, business cycles, traffic congestion, meeting the installments on his automobile and household goods, or the thousand and one things that harass the modern man. His wants are few and he has limited facilities for supplying them.

Civilized man may be enslaved to some extent by the things he has created but he has infinitely more freedom of mind and spirit. The life of the savage is beset by superstitions. He sees the wrath of an angry deity in the storm, in disease, and in famine. His whole life is an attempt to placate evil spirits. Even our own respected ancestors had a demonology which resulted in a none too creditable epoch in American history and some of these superstitions still linger in the hinterlands.

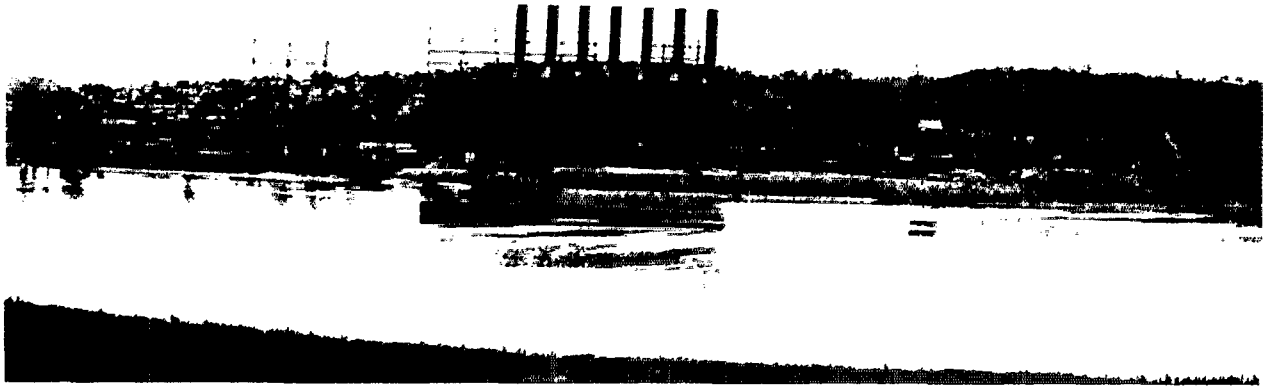
The average person no longer believes in necromancy. Even the orthodox fear of hell, which formerly had a salutary effect on human conduct, is becoming extinct. Knowledge is driving out fears and superstitions. Accidents and disease are known to result, not from supernatural influences, but from clearly defined and usually preventable causes.

And that, we believe, is sufficient compensation for the real and imaginary ills of civilization.

Serial Mistakes

A MAGAZINE editor once confessed to William Feather that when he bought a poor short story he was able to forget it, since it appeared but once. When he bought a bad serial it nearly drove him crazy because it ran through half a dozen issues.

It's the serial mistakes that keep us humble, Mr. Feather points out. We don't learn from little mistakes. The bigger the man the more thumping must be the mistake if he is to gain anything from it.



Safety-izing the West Penn System

By CARMAN T. FISH

For Six Years West Penn Employees Have Been Steadily Reducing Accident Rates

"**W**ERE safety salesmen, rather than engineers," said Harold F. Webb, general safety director for the West Penn Electric Company, summing up the methods which have enabled the organization to show a consistent reduction in accidents and accident costs since 1923. It was this salesmanship that enabled the West Penn Power Company to win the trophy in the Electric Group of the 1929 Annual Safety Contest sponsored by the Public Utilities Section of the National Safety Council, and has made all employees accept the slogan "Safety-ize Our System."

Giving the credit for safety achievements to educational work does not minimize the importance of engineering methods in the West Penn organization. These have been brought to a high degree of efficiency but the human element has required continuous instruction and inspiration.

The safety activities of the West Penn Power Company, West Penn Railways Company and Potomac Edison Company, as well as of the waterworks division of the holding company, the American Water Works and Electric Company, are under the general direction of the

Safety Department of the West Penn Electric Company in Pittsburgh. The West Penn Power Company serves the territory of Western Pennsylvania outside the city of Pittsburgh and mines the coal which supply its power stations. These companies make up the West Penn System with a total force of 6,500 employees. The waterworks group comprises 42 properties in 16 states and in Havana, Cuba. From the

The Springdale power plant whose safety record helped to win the National Safety Council trophy in the Public Utilities Contest. Coal is conveyed under the river from the Springdale mine to the tipples at the right of the plant.

safety department there is a constant stream of direct advertising to all the widely scattered properties. Within the electric group personal contact with the various units is possible but the activities of the waterworks group, with its scattered units, must be directed largely by mail, with only occasional visits.

Assisting Mr. Webb on the "sales force" are George H. Sullivan, A. J. Hill, Jr., and Clyde H. Ruble. Mr. Sullivan is office manager of the department, safety inspector and first-aid instructor. One week of each month he spends in Potomac Edison territory. Messrs. Hill and Ruble are field men, combining the work of safety inspectors and first-aid in-



A self-appointed inspection committee examining the belt worn by a new lineman. Some of the inspectors have been through the same experience.

structors. They travel throughout the territory continually, making inspections of physical properties, investigating serious accidents, giving first aid instruction to employees, and speaking before employee and community meetings when called upon.

Every other week appropriate National Safety Council posters are sent to each unit and the mailings on alternate weeks contain home-made posters of great variety and ingenuity. Health bulletins and a monthly safety calendar are included in the direct advertising campaign and two employee publications are also available for the propagation of safety ideas. *West Penn Life*, an elaborate monthly magazine, covering a wide field of employee interests, fills an important place in the organization, and the *West Penn Safety Valve*, a mimeographed publication, is an interesting supplementary medium for safety messages. Semi-monthly letters to superintendents are of an inspirational nature and deal largely with safety principles.

In promoting safety every official of the West Penn Power Company has not only given his approval but his active support. When an officer addresses a group of employees he talks as man to man, handing out both praise and censure as merited.



The investigation committee getting the facts about an accident.

On his own initiative one official sends frequent letters to the homes of all employees and each of the 1,500 letters carries his personal signature, not a rubber stamp.

One of the interesting sights in the West Penn building is Mr. Webb's "safety museum." Here are goggles that have saved eyes, "repaired" fuses taken from the prem-



Staff of the West Penn Safety Department. Left to right: C. H. Ruble, A. J. Hill, Jr., George H. Sullivan, and H. F. Webb, general safety director. The inset at the left is the Gadsby First Aid trophy which became the permanent property of the West Penn Power Company when they won it for the third time in 1929. At the right is the trophy won in the 1929 Public Utilities Annual Safety Contest.

ises of customers, defective linemen's belts that have been found and condemned in inspections, and a great variety of souvenirs of accidents, and devices that have prevented accidents.

In the matter of safety organization committees have been reduced to the minimum. At the beginning

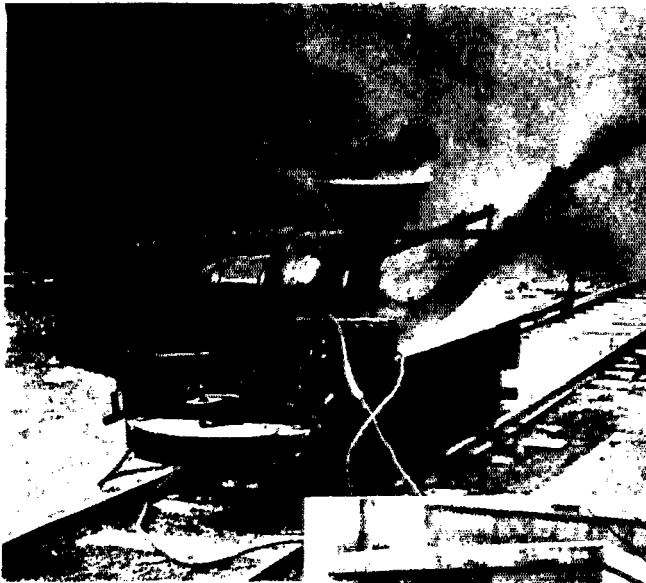
accidents an investigation committee is formed, consisting of one executive, a member of the safety department, and the chairman of the operating division. As quickly as possible after the accident the committee arrives at the spot, determines the causes, fixes the responsibility, and takes all possible steps to prevent a recurrence.

At all properties there is a contact man, usually a supervisor, who is responsible for the maintenance of safe working conditions, instruction of men in safe practices, and the use of the educational material sent out from the main office. A monthly inspection schedule is maintained at all properties.

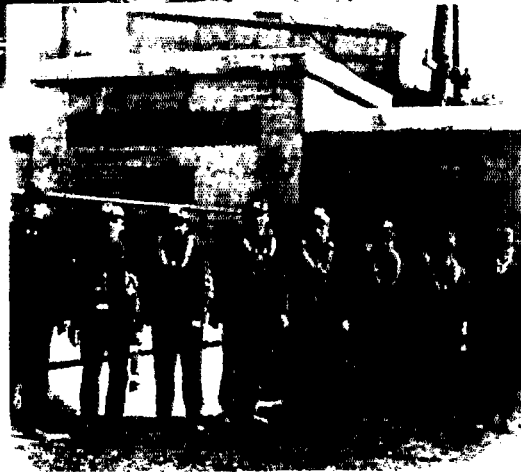
The Annual Public Utilities Safety Contest was a powerful incentive to the entire working force of the West Penn Power Company and the trophy which hangs in the lobby of the West Penn building is a source of pride to both executives and workers. It is a reminder of 3,460,065 man-hours worked by 2,548 employees with only 15 lost-time accidents, making a frequency rate of 4.335 for the six-month period.

Contests among the five main divisions of the system also keep interest alive. These divisions—Railways in Pennsylvania, Commercial Railways in West Virginia, Mining and Power—with approximately 5,000 employees compete monthly to accomplish the greatest reduction from their own average records for

of organized safety work many paper committees had been established with no definite plan of action. Many of these languished for lack of direction, while accidents continued without any conspicuous reduction. At present, there is only one committee, an executive committee on which each division is represented. For the investigation of serious



Testing the rock-dusting equipment at Springdale Mine. Right: The mine's rescue squad.



the previous five years. The division making the greatest reduction for the month receives a banner, and the division with the most banners at the end of the year receives a silver cup.

As in all public utility companies, first aid is one of the major activities of the safety department. Every man in the organization is instructed in the prone pressure method of resuscitation and in checking arterial bleeding, but except in the mines no attempt is made to give complete first-aid training to all employees. Enrollment for the complete course is voluntary but a large number have shown sufficient interest to qualify for certificates.

The company maintains 50 first-aid teams throughout its territory and elimination contests are held annually for the West Penn Championship, the winner representing the organization in the Pennsylvania Electric Association contest. During 1929 the West Penn team won the championship of the Association for the third time, thereby securing permanent possession of the Gadsby trophy.

Two mines operated by the company supply the coal which is converted into power for West Penn territory. The Springdale mine, the larger of the two, is located at Logan's Ferry, across the Allegheny river from the Springdale power station, and coal is transported under

the river to the tippie and thence by conveyor to the automatically stoked boilers of the power plant.

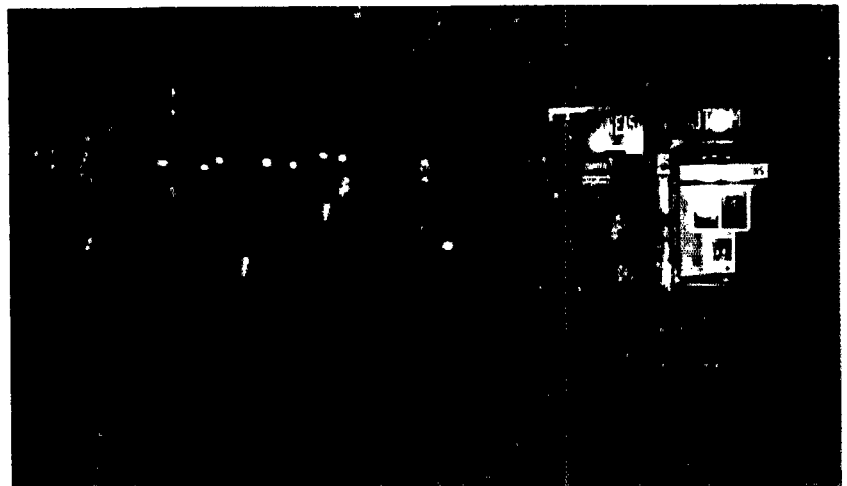
The mine has excellent roof conditions but is classed as a gaseous mine and an efficient ventilation system is required to keep the mine atmosphere safe. A flashing light outside the fan house indicates that the fan is working and when the light stops every man is ordered out of the mine. No matches or smoking materials are allowed underground and daily inspections are made by the fire bosses. All underground passageways are thoroughly rock-dusted. The most important factor in keeping the accident rate low at this mine is the energy displayed by Mine Superintendent Charles Reynolds and his supervisory staff. It was the Springdale mine which represented the company in the contest which clinched the Gadsby trophy.

Summing up the methods by which the West Penn System has been reducing accidents since accident prevention work was reorganized at the beginning of 1924, Mr. Webb emphasizes the following principles:

1. Furnishing the necessary protective equipment.
2. Periodic inspection of equipment and supplies.
3. Correction of hazardous working conditions.
4. Training new employees.
5. Safety instruction and education of all employees.
6. Maintaining the interest of the employees.
7. Supervision and direction of safety activities.

These are not listed in the order of their importance; in fact, it is impossible to say which is the most vital. But if the first three are neg-

(Continued on page 80)



Underground passage ways at the Springdale mine are marked like city streets. Illuminated bulletin boards are placed at strategic points.



A safety engineer of the Michigan Steel Corp. demonstrating a safety shoe and a collection of shoes from the museum.

WHEN the kings of Egypt built the pyramids I am sure that there were thousands of foot injuries. I am also convinced that the remedy used then was very simple. Since the working force was composed of captured neighbors it was probably customary, when a prisoner's usefulness ended, to take him to a secluded spot and put him out of his misery.

What a contrast to modern industrial procedure! Nowadays we not only have extensive provisions for rehabilitating the sick and injured but we also spend much time, effort and money in eliminating accident causes.

The prevention of foot accidents, for example, is one phase of accident prevention which has been the subject of considerable study by safety engineers

NOTE: The information in this article was presented originally in an address before the Engineering Division of the Detroit Industrial Safety Council.

Can Foot Injuries Be Avoided?

By NILS JUELL

Employment and Safety Manager, Michigan Steel Corporation

in the Detroit area and I have been fortunate in obtaining the experience of several companies.

The Packard Motor Car Company has saved many toes during recent years. In 1926 one mishap out of every six involving the feet was a lost-time case; in 1928 it was reduced to one in eleven. The fact that the company sold 3,000 pairs of safety shoes to employees during 1928 helps to explain the reduction in lost time.

Several near accidents in which the wearing of safety shoes prevented lost-time injuries are reported by the Cadillac Motor Car Company:

1. The front wheel of a three-wheel electric truck weighing 854 pounds ran over a man's foot. No injury.
2. A cylinder block weighing 90 pounds dropped from bench on workman's foot. No injury.
3. Casting dropped on checker's foot. This near injury was the cause of many men in non-productive activities adopting safety shoes.
4. Transmission case dropped on man's foot without causing injury.

In the tabulation of accidents at the Michigan Steel Corporation we classify each injury by filling in a square on a wall chart with colored crayons. For example, a red square denotes an injured leg; blue and red (horizontal)

feet and toes; yellow, an arm, etc. Each department has a section sufficient for six or seven lost-time accidents for each foreman per month. The chart is placed where foremen and workmen can see it, and it has stimulated interest and effort in accident prevention. In planning our accident prevention effort we find it helpful to record accidents by these three classifications:

1. Part of body injured.
2. Cause.
3. Occupation of injured man and operation involved.

Why do we emphasize foot protection? Because we believe that injuries to feet cause more lost time than any other type of injury. In a steel mill, where the work is so largely hand work, you can readily see the hazards to which the worker's feet are exposed.

I had not been at my present job very long before I realized what foot injuries meant to the efficiency of a steel plant. In our plant there is no job where the worker is seated. He is on his feet and his feet are in motion. Under these conditions even a slight foot injury is a serious handicap.

Consider the construction of the foot, with its multiplicity of bones that dovetail together and its muscles that work independently yet are dependent



A collection of shoes, safe and otherwise. (1) A popular type of safety shoe. (2) A safety shoe with wing toe offering added protection for the little toe. The cutaway shows plaster toes in normal position. (3) A safety shoe showing how toes are guarded. (4) A shoe which withstood a severe test. (5) A safety shoe which prevented an amputation. (6) A poor type of shoe for any worker. (7) A shoe with protected wing toe credited with saving the employee and the company money. (8) A shoe which permitted a severe laceration.



Congratulating a worker on escaping a serious foot injury by wearing protective shoes. Snapshots like this are used on bulletin boards by the Michigan Steel Corporation.

upon each other for proper functioning. It is easy to understand how an injury to a bony member or damage to these intricate muscles would affect the functioning of the whole group.

Most jobs in a steel plant require special training, and hundreds of dollars worth of material may be spoiled by a green worker before he is worth his wages. When such a worker receives a foot injury it is usually of such a nature that his demonstration of jumping around on one leg, holding on to the injured foot with both hands, attracts the attention of all the workers in the vicinity.

I will not attempt to estimate the cost of this commotion in dollars and cents, nor the time of the two fellow workers who usually take the injured man to first aid—and take their time in getting back to the job—nor the foreman's time in going to the first aid department and filling in the report of the accident and telling how it occurred and how it could have been prevented.

All this costs money and affects the insurance rate and the overhead, and eventually the company's ability to make a profit. I came to this conclusion assuming that when the firm is indifferent about accidents, the same attitude usually prevails in the prevention of other forms of waste.

We all have secret ambitions. Mine has been to be able to prove that foot

injuries can be prevented. We have found that cuts around the ankle and on top of the foot will heal with proper treatment and a few days' rest, but cuts and lacerations on the toes and sole present a much more serious problem.

Can the use of safety shoes be made compulsory? I believe it could if it were possible to carry in stock varieties to fit all feet and meet the requirements of all jobs.

Take, for instance, the sheet mill rolling crew. You might say that a certain dance step is made in swinging the rolled steel from one set of rolls to the other. A rhythm is developed, which, the hot-mill men claim, is interfered with by the stiff upper leather of most safety shoes. This is an example of the objections sometimes offered to the use of protective clothing.

In overcoming prejudices and objections, which are often largely imaginary, the bulletin board is the silent pulpit of the safety engineer. The safety poster is the finest medium we have for putting across a safety idea. We have also had a great deal of success with photographs. A man whose feet have been saved by safety shoes is proud of his foresight. He is invariably willing to make a statement and to have his picture taken. I have never seen it fail that after such a bulletin board exhibit our shoe sales have increased immensely.

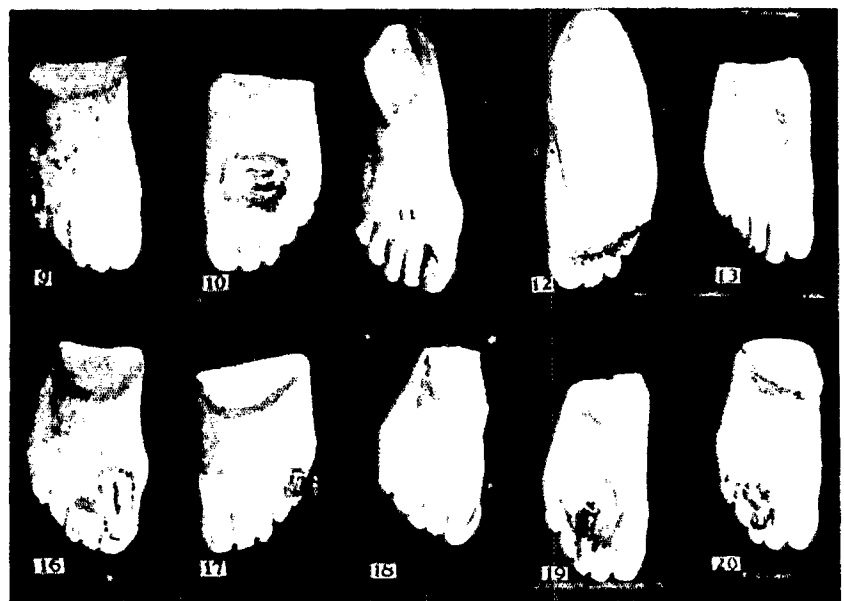
Any new type of accident is reproduced in plaster and we have found such models effective for display at foremen's meetings, and in some cases for bulletin board use. A few of the

casts from our collection are shown in an accompanying illustration. They are not difficult to make and their educational value is well worth the time and effort.

Most safety men have had an opportunity to observe the condition of the average worker's feet. In perhaps half the cases I have seen there has been a decided lack of personal hygiene and there is a real need for posters dealing with the care of the feet. In such posters these features could be emphasized:

1. The importance of footwear being intact when exposed to industrial poisons, such as lead, chrome, and dinitro compounds, etc., to prevent absorption of toxic substances.
2. Warm foot baths and change of socks are desirable after the day's work, whether the occupation is hazardous or not, for the sake of cleanliness and the relief of foot fatigue.
3. Correctly fitted footwear to prevent corns and bunions which cause much discomfort and may also delay recovery in case of injury.

In selling safety shoes, I have found that there is a great value in conducting the sale in the employment or the first-aid department. The psychological effect on other men who happen to be in the department at the time is remarkable. I have heard some interesting discussions started and there is an opportunity to get in touch with the men in talking about the importance of foot protection.



Plaster casts of injured feet are often exhibited at foremen's meetings.

Propagating Safety in the Dutch East Indies

By P. KRULLS

Government Safety Inspector, Palembang, Sumatra

AMONG the colonies especially favored by an insular climate, and probably among all colonies, the Dutch East Indies hold a foremost place. When the Dutch explorers first anchored in these palmy bays about 1600, they showed foresight in realizing the future value of the archipelago and advising the home government to develop its agricultural and industrial possibilities.

The Dutch East Indies, with the main islands of Java, Sumatra, Borneo, Celebes, New Guinea and the smaller isles, cover a total surface of 736,000 square miles, which is 65 times the surface of Holland, or little less than the surface of Texas, Virginia, North and South Carolina, Georgia, Missouri, California and North Dakota together. The total coast line of these islands is practically equal to the circumference of the earth.

The population amounts to about 50,000,000, distributed approximately as follows: Java and Madura, 35,000,000; Sumatra, 6,000,000; Celebes, 3,000,000; Borneo, 1,500,000, and the rest of the archipelago, 4,500,000.

The chief cities with their populations are: Batavia 300,000; Surabaja, 200,000; Samarang, 150,000, and Djokjakarta, 100,000.

The universal language of pictures is being used to educate the illiterate native workers of the far-off East Indies in safety

For a tropical country health conditions must be considered very good, if one makes due allowance for the fact that among the native Javanese, Malays, etc., modern sanitary methods are not yet commonly known.

On these islands are great American and European estates specializing in the large scale export of many products, the more important of which are rubber, cane sugar, coffee, tea, copra, tobacco, tin, essential and vegetable oils, cinchona bark, and teakwood.

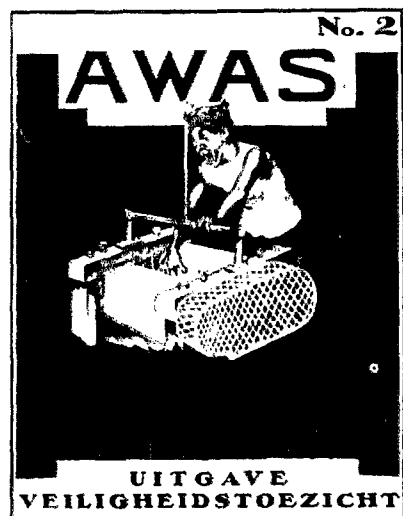
In summarizing East Indian wealth and prosperity there certainly should not be omitted many mineral treasures in the soil, among which are petroleum, coal, Bantam, gold, silver, nickel, iron and wolframite.

There should also be mentioned the great possibilities of water power which have not yet been ex-

ploited to a very great extent. According to a rough estimate, which does not include New Guinea, a large part of which is still unknown, there are available in the Dutch East Indies about 5,500,000 horsepower distributed as follows: Java, 500,000; Sumatra, 2,000,000; Celebes, 1,000,000; Borneo, 2,000,000.

Among the agricultural and manufacturing industries the cane sugar, rubber, tea, cinchona, palm oil and cassava products are highly developed from the scientific point of view. Also, the petroleum and tin industries, machine repair shops, metal construction work, cement factories, paper mills, paint and varnish works, packing, tanning and soap factories, tobacco factories, brick and tile works, and printing plants have reached a height where they are comparable to many American and European establishments.

In contrast with the thickly populated island of Java, where the supply of labor, as a rule, exceeds the demand, the outer districts have a labor shortage and the natives are of inferior fitness for regular work. It is usually necessary to import labor from Java or China at great expense.



A few examples of posters used in the education of native workers in the Dutch East Indies.





A Javanese workman displaying a guard of his own manufacture.

Under these circumstances the problems to be faced by the labor and safety service are varied and complicated. Although the most critical observer has to admit that the Dutch colonial government watches with minute strictness the fulfilment of the postulata of the International Labor Office attached to the League of Nations at Geneva, it must not be forgotten that most of the East Indian labor is illiterate. It should also be taken into consideration that during a comparatively short period the huge apparatus of modern industrialism was forced upon a country where for long centuries only primitive methods of agriculture had been known.

Thus the contrast with American and European industrial development is obvious. Whereas, from the beginning of our technical epoch until now time was given to the American and European laboring population to assimilate industrial methods, the Javanese had to pass through this process in a comparatively short period of time. The Javanese is almost never a "born technical man." For centuries he was a farmer, tilling the soil with primitive equipment, and he became an industrial worker by force of circumstances. His technical education is invariably incomplete, also his safety education.

Following the good example given by the National Safety Council, and later, also, by some of the European countries, the government recently introduced safety posters in East Indian factories. At the time of writing four posters have been published

(see accompanying reproductions) illustrating the dangers of shafting, rubber milling, not wearing goggles, and lack of fences. One of the posters, showing the missing fence along the driving belt, is double-fold, giving at the left side the wrong and at the right the desirable state of things, thereby increasing the educational value of the drawing. Inscriptions are given in Malay, this being the universal idiom of the archipelago.

So far as can be observed, all of these illustrations have given excellent results in the factories and shops. Without exception the workmen showed interest and understanding, particularly if they were unable to read the inscriptions. Their natural predilections for pictures of all kinds, facilitate educational work of the illustrative sort.

It was quite a satisfaction for the author when on a recent inspection trip he met a Javanese worker who proudly showed him a home-made and quite practical safety device for guarding lathe gearing. The worker and his guard are shown in an accompanying illustration.

Noting the favorable results of the posters published so far, the gov-



ernment intends to issue more in the future and to proceed in this line of safety education by illustrations, thus helping to preach the gospel of safety in these rather remote parts of the world.

A Tribute to a Life Saver

APPRECIATION of a meritorious act was admirably expressed in a brief address by G. A. Orth, manager of the Safety and Claims Section of the American Car

& Foundry Company, at the presentation of the President's Medal of the National Safety Council, to Walter Carrico, an employee of the company who had saved the life of a fellow worker by the prone pressure method of resuscitation. Mr. Orth spoke as follows:

"Such an occasion as this is one which stirs the emotions and touches the heart. It is a great moment in my life and a great moment to all of us, for were we to live a thousand years we could not be called together to express our profound admiration for a greater or nobler deed than that which is the occasion of this meeting.

"There is present with us here a man who has passed through the shadows of the Valley of Death and who would not be alive had it not been for the life-saving service rendered to this man when his life had almost passed and who was saved by the heroic and devoted actions of the hero of this occasion, Mr. Walter Carrico.

"Mr. Carrico has performed the supreme service within the sphere of man. He has defeated death, saved a life of a fellow man, and demonstrated the incalculable worth of first aid training and what it means when promptly and intelligently applied at such a supreme and overwhelming moment.

"No words which I can utter can fully express the debt we owe Mr. Carrico. He will carry through life the honored respect and high admiration of all those who know of his splendid contribution to Safety First and the pride which alone is his for having made so great a contribution to human welfare."

Grand Rapids Club Studies Causes of Falls

FIFTY-ONE persons have met death through falls in Grand Rapids, Mich., since January 1, 1925. Eighteen of these falls were on stairways, nine on pavements, five on floors, and the rest are unclassified.

These facts were brought out in the discussion at a recent meeting of the Grand Rapids Plant Representatives Club following a talk by H. Weaver Mowery, of the American Abrasive Metals Company, New York City. Mr. Mowery spoke on the subject of falls in industry and the elimination of slipping and tripping hazards.

The Plant Representatives' Club is holding a series of meetings devoted to the study of industrial safety problems, using as a textbook "The Manual of Industrial Safety," by Sidney J. Williams.

Machines Cause Fewer Injuries

Safeguarding, Supervision and Training Are Making Their Influence Felt in Preventing Accidents Due to Machinery

By G. G. GRIEVE

Assistant Statistician, National Safety Council

A RECENT analysis showed that National Safety Council members engaged in the manufacture of automobiles, electrical equipment, machinery, and similar products—industries in which power-driven equipment is an outstanding feature—have been very successful in reducing serious accidents. (See December, 1929, NATIONAL SAFETY NEWS, pages 21-22). The loss of fingers and hands and other permanent partial disabilities declined more than 50 per cent from 1926 to 1928, which was taken as a possible indication of effective work in eliminating machinery accidents. These accidents have received particular attention from safety engineers, not only because of their high frequency and severity, but also because the

increased use of mechanical equipment has held the possibility for an increasingly difficult problem.

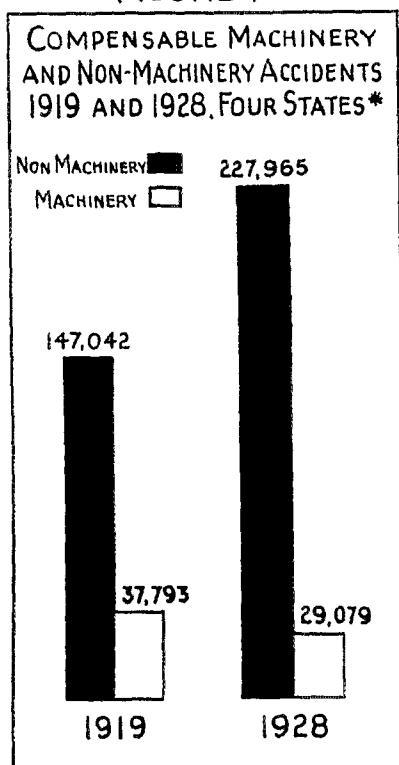
In an attempt to test the accuracy of the above interpretation that fewer permanent disabilities meant machinery accident reductions, ten-year records of industrial accidents in four states have been studied. Compensation records in these industrial states—New York, Pennsylvania, Wisconsin and Massachusetts—show variations in experience with compensable machinery cases. Massachusetts reports a consistent decline during the last ten years—a total decrease of 58 per cent. Between 1919 and 1928 compensable machinery accidents rose 16 per cent in New York and about 7 per cent in Pennsylvania. Wisconsin showed a very slight increase. Influenced by the marked Massachusetts drop, Figure 1 shows that compensable machinery cases in 1928 were 23 per cent less than the number recorded in 1919 by the four states. Although three of the four states showed some increase in the ten-year period only one state—New York—experienced an increase in machinery accidents in the last five years. The other three, in a period of rapidly increasing mechanization, with a corresponding increase in exposure of employees to machine hazards, have nevertheless reduced machinery accidents.

When related to the number of non-machinery compensable cases, the machinery accident situation appears more favorable. Non-machinery cases for the four states have not only increased steadily, but more rapidly than compensable machinery accidents since 1919. The gain in non-machinery cases since 1919 is 55 per cent. Machinery accidents, on the other hand, were 16 per cent below 1919 in 1924 and declined another 7 per cent by 1928. The experience of the states, has, in general, been similar. New York, though showing a gain of 16 per cent in all machinery accidents between 1919 and 1928, reports a 130 per cent increase for non-machinery

cases during the period. Figure 1 also indicates the favorable showing machinery accidents make compared with non-machinery cases during the last ten years.

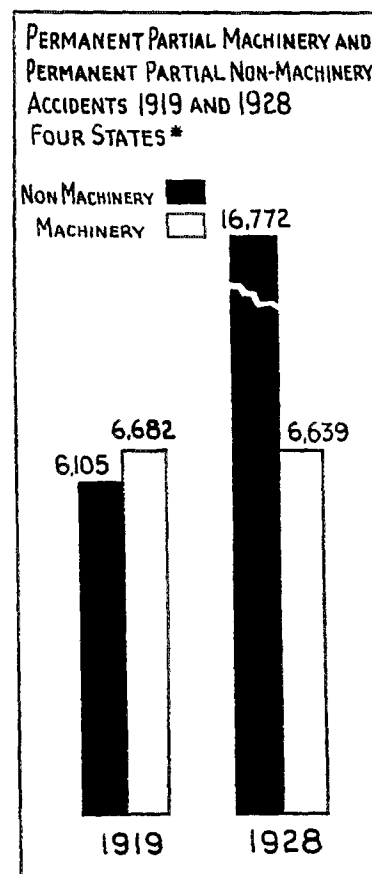
This improvement is also reflected in the relation of permanent partial disability machinery cases to permanent partial disability non-machinery accidents in 1919 and 1928. (See Figure 2.) Permanent partial disabilities from machinery accidents exceeded non-machinery cases of this type about 10 per cent in 1919, but in 1928 there were over two and a half permanent partial disabilities

FIGURE 1



* PENNSYLVANIA, WISCONSIN, MASSACHUSETTS AND NEW YORK

FIGURE 2



* MASSACHUSETTS, WISCONSIN, NEW YORK & PENNSYLVANIA (PARTIALLY ESTIMATED)

Table 1: Machine Accidents in New York State, 1923 to 1927*

	Number of Compensable Accidents, Year ending June 30—					% Change 1926-1927 Compared with 1922-1923
	1923	1924	1925	1926	1927	
Power Presses	1,193	1,395	1,044	1,275	1,161	-3
Power Saws	1,006	1,159	1,196	1,264	1,096	+9
Sewing Machines	29	472	378	842	948	+121
Abrasive Wheels	333	365	372	559	436	+31
Cloth-cutting and Stamping Machines	163	249	270	430	416	+155
Portable Power Tools	130	211	251	318	414	+218
Printing Presses	304	356	335	439	390	+28
Food-cutting and Chopping Machines	189	216	255	365	355	+88
Jointers and Planers	314	402	302	384	346	+10
Lathe and Automatic Screw Machines	197	196	179	283	286	+45
Metal Shears	187	215	195	244	233	+25
Hand and Foot Presses	30	32	100	193	231	+670
Power Shovels	40	86	108	182	226	+465
Ironing Machines	118	174	166	223	224	+90
Concrete Mixers	86	125	148	188	212	+147
Total of Above Machinery Cases	4,721	5,673	5,509	7,189	6,974	+48
Total of all other causes	48,911	62,190	65,823		85,958	+76

*From the Industrial Bulletin issued by the Industrial Commission of New York State, February 1928.

due to other causes for every one due to machinery. Similarly, fatalities involving machinery also declined during the period; in 1929 they were 6.6 per cent of the non-machinery fatalities, but in 1928, the proportion had decreased to 5.2 per cent.

New York has analyzed its machinery accidents on the basis of the type of machine causing the injury. Table 1 shows that the increases have been least where the numbers were greatest. For example, power press accidents show a decline of 3 per cent, and injuries from power saws increased only 9 per cent in comparison to an increase of 48 per cent for all accidents classified in the table, and an increase of 76 per cent in non-machinery accidents.

The results which have been achieved in eliminating serious accidents due to power presses and power saws demonstrates the extent to which machinery accidents can be controlled. Accidents involving sewing machines, on the other hand, have more than doubled between 1923 and 1927. This is attributed by the New York Department of Labor to the increasing number of power driven machines and to liberalized provisions in the compensation law.

A selected group of iron and steel plants have an experience somewhat different. Statistics compiled by the United States Bureau of Labor Statistics on the causes of accidents in such a group of plants show that the frequency of machinery accidents has declined from 3.3 per 1,000,000 hours worked in 1919 to 1.3 in 1927, a decline of 61 per cent. (See Bulletin 490 of the U. S. Bureau of Labor Statistics.) The frequency of machinery accidents, however, in 1927 was only exceeded by the frequency rate for those resulting from handling objects. Furthermore, the reduction in all accidents was 80 per

cent, 20 per cent greater than that for machinery accidents alone. It is impossible to state, of course, whether this result was accomplished by greater effort against the non-machine hazards.

These related pieces of evidence, while not all pointing in the same

direction, constitute some proof of a decline in machine hazards in American industry. In the available data machine accidents are fewer than they were ten years ago, and the discrepancy is greater considering five years only; they are much less numerous when compared to all compensable cases (except in a selected group of steel plants); and the decline is even sharper when only permanent disability accidents are considered. It is true that the scope of compensable accidents has been changed and that the decreased percentage of machine accidents may be partially fictitious on this account. Actual numerical declines in recent years, however, coupled with a favorable standing as compared to non-machinery permanent disabilities offers considerable evidence that safe construction of machines, machine guarding, and proper training and supervision of machine operators are making their influence felt.

These Men Believe in Goggles



THE five employees of the Pullman Company shown in the above illustration are firmly convinced that the company's rule requiring all employees on duty to wear goggles is a wise one. Five pairs of goggles were damaged and five men were saved from partial or total blindness.

The employee on the left was handling a bundle of inside sash strips when one strip fell out the bundle, striking the goggle lens. This would not ordinarily be considered an eye-hazardous operation.

The next man was using a hammer and chisel to remove a screw with worn threads. The screw flew up and broke a lens.

The third man was tinning screws when the solder splashed, burning his face and covering the lenses. His eyesight was saved.

The fourth was melting solder which splashed and covered the right lens.

The fifth turned an oil furnace valve on instead of off. The flames burned his face but the goggles saved his eyes.

The Executive and Safety

By OTHO M. GRAVES

Vice-President and General Manager, The General Crushed Stone Corporation



© Harris & Ewing

SINCE the time when our sturdy Pilgrim forefathers landed on Plymouth Rock and fought valiantly and successfully the elements and hostile Indians to establish a foothold and a living place in the land they called "New England," and when under fairer skies and on more fertile soil the cavaliers of Old England established their colonies in what is now Virginia, this nation has flourished and prospered. With natural resources of almost unbelievable richness and seemingly unlimited in quantity; with a population growing by leaps and bounds; blessed with a government of the people, by the people and for the people; with the happy prospect before us of increased prosperity under a competent and sympathetic administration, it truly seems as though the thread of our destiny has been woven into the fabric of world affairs by the hand of a Master Weaver graciously inclined to our welfare.

It is only in relatively recent years, when we have spanned the three-thousand-mile width of our continent and planted cities on the Pacific Coast rivaling in magnificence and in population those of the Atlantic seaboard, that we have come to realize that these natural resources must be conserved and guarded with zealous care if we are to continue to thrive and prosper. We have now become accustomed to the phrases which rang strangely in our ears not so long ago of "conservation of forests," "of water power," "of coal," "ore" and the other gifts of a beneficent deity.

Business Ethics

We have outgrown the moral crutches of such phrases as "Business is business," "Honesty is the best policy," and "caveat emptor." We now clearly perceive that business is good business only when it is conducted along sound, ethical lines. We are honest because we know that we should be, and the material benefits of honesty come naturally as by-products. The buyer is not expected to beware,

but is guided and protected. Yet but slowly have we come to the realization that fundamental as is the conservation of our natural resources, even more basically important is the protection of the worker.

Of all the material with which we have to work there is none so vitally important, nor so fascinating, as the

Industry is demanding a new type of executive, one who knows human problems as well as manufacturing processes; not a boss but a leader who can hold the confidence of his men.

human. The man who hopes to succeed to the fullest extent without sympathetic understanding of his fellow man has about as much chance of success as one who searches at midnight in a dark cellar for a black cat that isn't there.

We must necessarily take into account those curious cross currents forming queer eddies in our characters that lead one to observe that at times we seem to have our counterparts in the British Isles, where the Englishman loves his beer, beef and Bible; the Scotchman keeps the Sabbath and everything else he can get his hands on; the Welshman prays on Sunday and on everybody else the rest of the week; and the Irishman does not know what he wants and won't rest contented until he gets it.

A relatively new thought is manifestly permeating industrial activity—the recognition of the interdependence of employer and employee, a relationship which now approaches economic equality. We are beginning to realize, beyond a mere lip statement, that the employer prospers in direct ratio to the prosperity of his employees. Industry is demanding a new type of executive, who not only intimately knows the processes of manufacture, but who also sympathetically visions and understands the problems which confront his men; one who while directing and governing creates in those associated with him enthusiastic cooperation; a

leader, not a boss; one whose integrity, qualities of judicial fairness and

human sympathy awaken the loyalty and hold the confidence of his men.

To such an executive the physical safety of his men is of paramount importance. He is motivated in safeguarding them in their employment no less by reason of their economic value, impaired as it is by lost time from any cause, than by his humanitarian interest in their welfare and contentment of mind. Obviously, a skilled employee is more valuable on the pay roll than on the compensation list, and equally, a contented worker is clearly of more value than one discontented and disgruntled, whether his disturbed state of mind comes from a belief that he is underpaid, unappreciated or unduly exposed to unnecessary hazards.

Is the time and money required to promote accident prevention economically justifiable? The reply to this question is in the handwriting on the wall, with abundant proof of an affirmative answer in the experience of our largest industries. The evidence is overwhelming that a safe plant is an efficient one, and conversely, an efficient plant is a safe one. It is being constantly demonstrated that by giving effective attention to accident prevention, insurance costs, however carried, are lowered; and moreover, production is correspondingly increased; in fact, maximum productivity cannot be attained until accidents are reduced to a minimum.

A Paradoxical Attitude

Not so long ago a well-known producer of a mined material said that he would not sacrifice production for the sake of reducing accidents in his mines. Such an attitude would be humorously paradoxical were it not tragic. In discussing his comment the memory whimsically came to mind of an old negro who said that on his farm in southern Georgia he used to raise horses, black horses and white horses, but that he had to give up raising black horses because they ate more than did the white horses. When asked

(Continued on page 84)

NOTE: The accompanying article was originally an address delivered before the Quarry Section at the Sixteenth Annual Safety Congress. By request it was presented, with modification, before the Special Session for Industrial Executives and Engineers at the Eighteenth Congress.



Left: W. S. Unger, superintendent, and right, Edward Warren, assistant superintendent, Carrie Furnaces. Inset: J. W. Benner, superintendent of safety, employment and welfare, Homestead district, Carnegie Steel Company.

THE blast furnace at one time had the unenviable reputation of being the most hazardous department of the steel industry, and a survey of the accident rate over a period of years before the introduction of present day safety methods bears out this contention. Today, however, this department compares very favorably with other industrial units in its accident experience both as to frequency and severity. The safety record of the last twelve months at Carrie Furnaces of the Carnegie Steel Company surely goes to prove the accuracy of the last statement.

Carrie Furnaces, the blast furnace plant for the Homestead Steel Works of the Carnegie Steel Company, is located in the Boroughs of Rankin and Swissvale, Pa. This plant, being located across the Monongahela River from the steel works, must naturally be more or less self-contained. It involves, besides the usual furnace front, stock house, blowing engine, pig machine, ladle, ore unloading and repair work, the operation of power generating equipment at both high and low voltages for the transmission of power to the steel works and cement works, and a rather complex railroad-ing system.

Carrie Furnace Plant operated from March 2, 1929, to October 27, 1929, a period of 238 days, during which time no accident occurred that necessitated any employee losing time from his work. During this period there were 1,772,680 man-hours worked, 1,066,110 long tons of pig iron produced, and 94,548 cars of material handled, not counting 36,008 ladles of molten iron and 26,190 ladles of molten slag.

Previous to the start of the safety movement, accidents were considered

Blast Furnaces

Used To Be Hazardous

But They Are Rapidly Losing Their Unenviable Reputation

By W. S. UNGER

Superintendent, Carrie Furnaces, Homestead Works,
Carnegie Steel Company

a necessary evil connected with the business, and frequently the only explanation given concerning an accident was that it was just "too bad." This feeling still persists, but it is growing less and less each year; in fact, many accidents which were considered unpreventable have been entirely eliminated due to better facilities for doing the work, better methods, or more care exercised.

The first period of the safety campaign was the "safeguard" period, in which nearly all attention was paid to the placing of guards on machinery, railings on platforms and unsafe locations, substitution of stairways for ladders, etc. As a corollary to this, more care was exercised in the selection and building of new machinery to see that it came up to the safety standard, thereby eliminating the expense of installing the necessary safeguards after the machine had been delivered. This procedure immediately bore fruit, for conditions were such that the opportunity for improvement was large. During this period the personal education of the workmen along safety lines was talked about, but was not practiced very intensively.

With machinery and equipment safeguarded, and proper tools with which to work, stress was placed upon the educational campaign, since the success or failure of safety depends

upon the workmen themselves. As a chain is no stronger than its weakest link, so the safety basis of a plant is no stronger than its most careless workman.

The educational campaign is worked out along the following lines: All men seeking employment are examined by the plant physician. Passing their examination, they are taken around the plant by an experienced workman who points out and explains the dangers to be avoided, and gives them general safety instructions. When reporting to their department, these men are again instructed by their department foreman on the particular hazards of that department. Any man who does not understand English thoroughly is instructed in his native language.

Each workman, when starting to work in a department, automatically becomes a member of a squad of not more than six men, which is headed by a leader, who is not the foreman, and whose duty it is to speak daily to his men upon any dangers noted, urge every man to exercise care that neither he nor his fellow workmen are injured, and to take charge of the safety of the squad in general. Squad leadership is changed every six months. Each day this leader turns in a signed report of any accidents occurring in his squad, unsafe practices noted, or any suggestions he or his



The general safety committee at Carrie Furnaces.



Carrie Furnaces of the Carnegie Steel Company as viewed from Homestead Works across the Monongahela River

men desire to make. All recommendations are referred to the proper parties for investigation and action, and a letter sent by the department superintendent to the leader advising what disposition was made of his suggestion.

In every department will be found one or more men familiar with all phases of their line of work. At intervals one of these men is appointed to make a written report from a safety viewpoint of all jobs being done by his department, and to correct any unsafe practices, and to condemn any unsafe tools. The object of this inspection is to prevent any bad practice from becoming a habit.

A suggestion was received during the latter part of 1928 that a committee from one department would be able to unearth unsafe conditions and practices by visiting all departments except their own. The idea advanced by the originator was that men following one line of work become so familiar with the routine that they overlook certain dangers which an outsider might observe, and that any safety developments practiced in their own department might be passed on to the department visited. By visiting departments other than their own, all possibility of any hesitancy in criticizing their immediate superiors was eliminated. Each committee served one week, and its report was sent to all departments. The result was that 467 suggestions were received, of which 423 were completed, 18 not considered feasible, and 26 listed for later consideration. Many excellent suggestions were received.

Once each month a safety meeting is held in the superintendent's office, at which all department heads and principal foremen are present. At this meeting the safety for the plant is encouraged by open discussion. All ac-

cidents, both at Carrie Furnaces and at the other departments, are discussed by a representative of the safety department. The safety of the plant revolves around this committee.

When a workman is injured he is given a card to the emergency hospital by his foreman. This card must be signed by the plant physician pronouncing him in good condition before the man is permitted to return to work. At the time of the accident, the foreman makes a written report, a copy of which is sent to the safety department where all statements are checked. A committee of three workmen then investigates the case, making a complete report, giving circumstances, placing responsibility for the accident, and suggesting means to avoid a repetition. This report is sent to a central investigating committee, composed of three department heads, meeting twice each week to review every case. This central committee recommends any penalties in connection with the case, the infliction, however, being left to the department head. These reports are then sent to the safety department for filing with other records of the case. In all cases the responsibility for an accident must be fixed, and falls into one or more of the following classifications:

- Class 1. Man responsible for own accident.
- Class 2. Fellow workman responsible for accident.
- Class 3. Foreman responsible for accident.
- Class 4. Failure of equipment.
- Class 5. Improper equipment or facilities for doing work.
- Class 6. Bad plant condition.
- Class 7. Unavoidable hazard of operation.
- Class 8. Physical weakness.
- Class 9. Lack of co-operation.
- Class 10. Failure of safety devices.
- Class 11. Violation of safety rules.
- Class 12. Improper and unsafe method of doing work.

A short summary of all serious accidents, giving the names of the parties concerned, the findings of the investigating committee, and the responsibility for the accident is posted on all the bulletin boards in the plant. The effect of seeing one's name posted as being responsible for an accident causes the individual to exert every effort to avoid a repetition.

The usual safety posters on other subjects are posted. It has been found that in order to retain interest in the bulletin boards, the proper type of posters be used, that they be changed frequently, and located properly. Plant entrances have been found to be poor locations, as the workmen are usually in a hurry entering or leaving the plant. Comfort stations, wash rooms and locker rooms have been found better.

Items from the NATIONAL SAFETY NEWS are marked and circulated among the various departments, and in several cases bulletins and pamphlets which are of particular interest to certain phases of the operation are ordered.

A clean plant is a safe plant, and twice each year a committee, composed of all department heads, makes a complete survey of the entire plant, reporting all unsafe, untidy or unsanitary conditions. The recommendations are followed up to see that they are enforced.

A number of foremen and principal workmen are trained in first aid by the plant physician. Most emphasis is placed upon resuscitation methods, due to the presence of carbon monoxide in blast furnace operations. Care is exercised in the selection of these men so that properly trained men are available at all times. Since there is an emergency hospital located at the plant, only rudimentary training in first aid is given. At designated locations stretchers and gas masks are located for instant use, and it is the duty of one man to inspect and keep them in working condition.

Good suggestions and the development of safety in any form are encouraged and commended. Unsafe practices, carelessness and disobedience of safety rules are reprimanded and penalized. If a man through his own gross carelessness or negligence is injured, he is penalized. If a man is injured due to a fellow workman disregarding safety, this fellow workman is penalized. If a man is injured, and upon investigation it is found he has been an habitual disregarder of safety rules, and that the group of men within which he works has been cognizant of this and yet has allowed

(Continued on page 63)

95,086 Accidental Deaths in 1928

Revised Figures Place Motor Vehicle Fatalities at 27,966; Other Accidental Deaths Show Slight Decline

By R. L. FORNEY

Statistician, National Safety Council

FINAL figures for 1928, just released by the United States Census Bureau, show that accidents took 2,008 more lives in that year than in 1927. The total figure of 95,086 represented a 2.1 per cent increase over the 93,078 deaths in the previous year.

Automobile deaths featured the year's accident experience. Accidental deaths where motor vehicles were involved exceeded those of 1927 by 2,115. The grand total of 27,966 deaths in motor vehicle accidents was an 8 per cent increase over 1927, when 25,851 persons were killed.

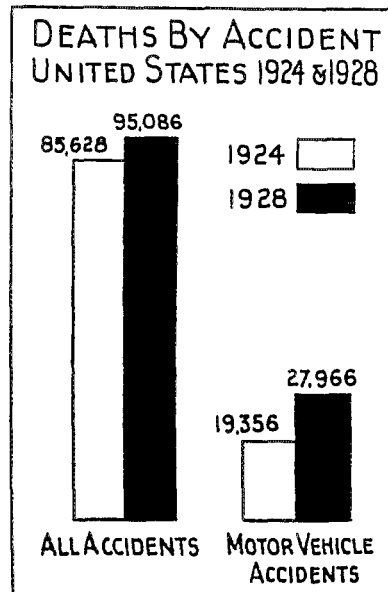
A comparison of these figures indicates that deaths in accidents other than those involving motor vehicles actually were 107 less in 1928 than in the previous year.

Consideration of the increase in population brings out several of these points in even sharper relief. Deaths per 100,000 population in all types of accidents increased from 78.4 in 1927 to 79.2 in 1928. This is an increase of .8 per 100,000 population. The death rate from automobile accidents (excluding collisions of automobiles with railroad trains) however, increased from 19.5 per 100,000 population to 20.8 per 100,000 population. It is evident, therefore, that the death rate from other than automobile accidents declined .5 per 100,000 population in 1928.

All of these figures are in close correspondence with estimates prepared by the National Safety Council from state health department data early in 1929. On the basis of 22 state reports total accidental deaths in 1928 were then estimated at approximately 96,000—less than 1 per cent above the final figure above quoted. The Council's estimate of 27,500 on automobile deaths, based on 41 state reports, was, on the other hand, slightly low. The difference of 463 deaths, however, represented only 1.5 per cent of the total number that really occurred.

Deaths Per 100,000 Cars Increase

In contrast to the 8 per cent increase in motor vehicle deaths in 1928 the Na-



tional Automobile Chamber of Commerce has reported only a 6 per cent increase in motor vehicle registration. This excess was sufficient to raise the rate of deaths per 100,000 registration from 100.2 in 1927 to 101.7 in 1928. This is the highest death rate from automobile accidents (excluding collision of automobiles with heavier vehicles) registered since 1923, when the rate was 108.5.

The cause of 1928 accidental deaths most closely approaching automobiles was falls. Sixteen thousand eight hundred and ninety three persons were killed in this way in 1928, contrasted to 16,596 in 1927. Accidental drowning showed one of the most important increases, 8,421 persons meeting death in this way in 1928, compared with 7,991 in 1927. Mine and machinery accidents both showed slight decreases over 1927, whereas deaths from accidental shooting showed no change.

Excluding collisions of automobiles with heavier vehicles, the death rate per 100,000 population for automobiles now shows an increase from 15.7 in 1924 to 20.8 in 1928. This is almost

a one-third increase in the short space of five years. The numerical increase in this period has been 7,365 annually.

For all types of accidents the death rate per 100,000 population has now shown an increase from 76.4 in 1924 to 79.2 in 1928, a 4 per cent increase in the rate. The numerical increase has been almost 10,000 deaths annually.

Among the various states, California has by far the highest automobile death rate per 100,000 population, 38.5. In only one other state out of the 44 on which the United States Census Bureau now obtains data, was the rate as high as 30. This was Delaware with a rate of 30.7, indicating an increase of more than 50 per cent in five years. The lowest rate per 100,000 population was reported for Arkansas—10.9. Other states with rates below 15 per 100,000 population were Alabama, Georgia, Iowa, Kentucky, Maine, Mississippi, North Dakota, Oklahoma, South Carolina. It will be noted that most of these states are in areas with comparatively low motor vehicle registration.

The combined automobile death rate per 100,000 population for 68 large cities is also finally given as 24.0 for 1928, in contrast with 23.0 in 1927. This increase of 1.0 per 100,000 population is in contrast to the increase of 1.3 for the entire country, including these cities. Among the larger cities may be mentioned Chicago with an increase in death rates from 25.4 in 1927 to 28.0 in 1928; and Detroit with a decrease from 30.2 to 26.1.

The above figures reveal that automobiles caused 29 per cent of all accidental deaths in 1928. Every indication is that this percentage will be larger in 1929. Current monthly reports to the National Safety Council now indicate a 7.5 per cent increase in motor vehicle deaths in 1929 as compared with 1928. Unless this indication is materially changed by state health department reports which will be received early in January, the motor vehicle toll in 1929 will exceed 30,000 deaths.

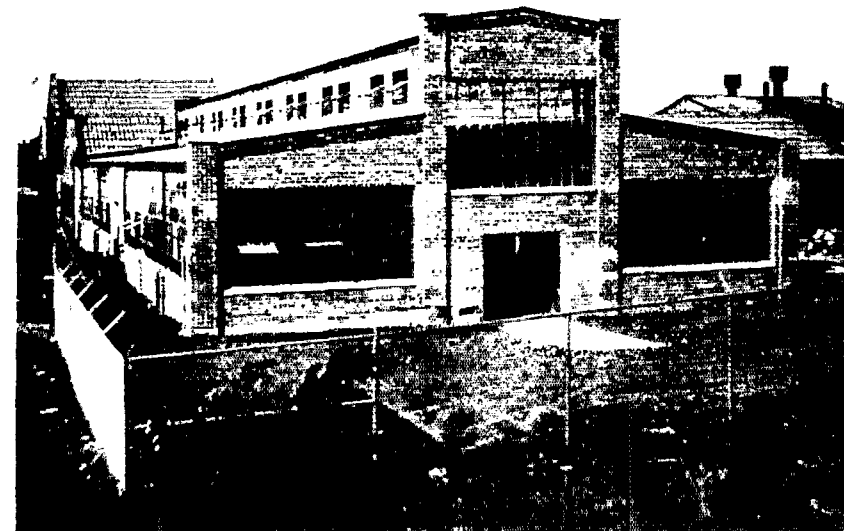
They Got Results from the Start

The first ten months of organized safety work convinced Transue & Williams Steel Forging Corporation that preventing accidents was both practicable and profitable

"HOW long does it take to show worth-while results?" This is a question frequently asked by companies considering the establishment of organized safety work and by men who have found themselves confronted with task of organizing the accident prevention work of a company. It ranks second in importance to "How much will it cost?"

Obviously, too many factors enter into the problem to permit a definite answer. The rapidity of progress in accident prevention will depend upon the energy behind the campaign, the selection of a program fitted to the company and its personnel, and the amount of executive support obtained. Some companies make two or three wrong starts before finding the most effective procedure but most of them can point to substantial progress before the end of the first year of organized effort.

Toward the end of 1928 the Transue and Williams Steel Forging Corporation at Alliance, Ohio, with an average force of 900 employees, decided that there was room for con-



A neat yard and a factory building with good natural lighting and ventilation.

siderable improvement in the accident situation and determined to start the new year right with an intensive campaign for fewer accidents. E. G. Stahl, personnel manager for the company, was convinced that it could be done and the executives of the company caught his enthusiasm. He had their support from the start.

The first step was an analysis of the 1928 accident experience. This revealed the weak spots and pointed out a definite course of action. The next step was a meeting of the foremen, addressed by the president and the works manager, and the support of the supervisory force was as-

sured. Departmental safety committees were organized and semi-monthly meetings were arranged as part of the program.

It then became evident that outside assistance would be extremely valuable in furnishing the experience of other companies and in providing a supply of educational material to keep the organization from growing stale for lack of ideas. A membership in the National Safety Council was taken out and its services put to work.

Bulletin boards were erected throughout the plant and the posters were changed twice a week. A suggestion system was started, and all



Traffic guide lines facilitate safe trucking in the plant. Right: An orderly shop with a well-arranged battery of shapers.



The foreman, safety director and departmental safety committee conducting an investigation at the scene of an accident.

practical suggestions, whether for safety or production, are rewarded in proportion to their merit.

A survey of the shop was made and an extensive program of safeguarding began. Trimming, punching, and other types of power presses were equipped with up-to-date guards, and along with the guarding there was increased effort in training men in safer methods of work. The foremen have taken hold of the job of training employees in the right spirit and carry on the work begun in the employment office when a man is hired.

Early in the campaign it became evident that there was room for improvement in the plant housekeeping. Painting the aisles with white lines helped to improve conditions, and as a further incentive, the department with the reputation of being the dirtiest in the plant was placarded with a large sign. This method is open to the criticism of being negative, but it worked. Within two months housekeeping throughout the plant showed an astonishing improvement.

Eye accidents had figured prominently in the previous accident experience and Mr. Stahl became convinced that the way to eliminate them was to make the wearing of goggles universal and compulsory. Executive support again proved valuable in overcoming objections. Eye injuries dropped 90 per cent during the first nine months of 1929, and six shattered goggle lenses told the story of six eyes saved. These were displayed on the bulletin board with the stories and this publicity has lessened the amount of super-

vision needed in making men wear goggles.

Monthly safety meetings for employees have been helpful in maintaining interest. Usually an outside speaker is present to give the audience a fresh point of view on accident prevention. Discussions of accidents form part of the program at each meeting, and along with causes and methods of prevention, emphasis is placed on the cost of accidents to the company, to the injured employee, and to his family.

Dinners devoted to safety and good fellowship are held every four months. At these meetings it is customary for either the president or the works manager to preside and



When the ram of the press descends the operator's hands are pulled back from the danger zone.

the program invariably includes entertainment as well as business.

A fully equipped hospital is maintained at the plant with a physician and two trained nurses in charge. Recently the company started first aid courses, enrolling the foremen and two men from each department. Special emphasis in the training is placed on the prone pressure method of resuscitation.

The outstanding result of the first ten months of organized safety work was decrease of 81 per cent in the number of lost-time accidents from the record of the previous year. Accident prevention the plant is no longer an experiment; it has established a definite place in the organization. Commenting on the results of the first year, Mr. Stahl says:

"The money spent in guarding machinery and in conducting other features of this accident prevention program has been saved many times over."

Railroads Spend Millions for Safer Equipment

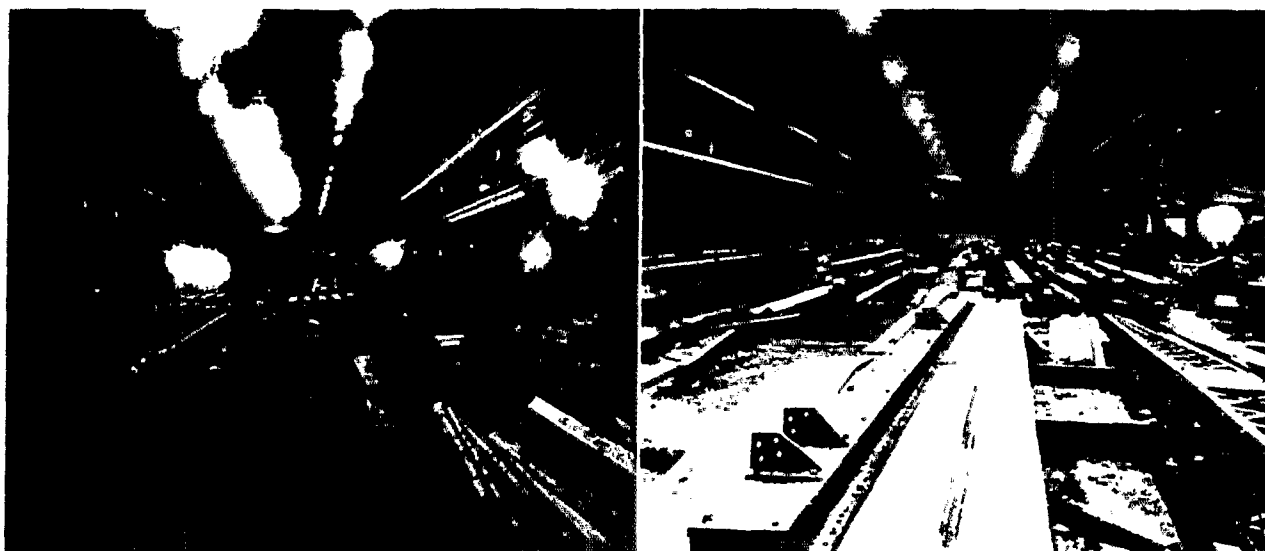
THE Class 1 railroads of the United States invested \$194,903,951 in 1928 for improvements which increase safety, according to an analysis just completed by the Bureau of Railway Economics and published in *Railroad Data*.

More than \$56,000,000 was spent in the installation of heavier rails, thereby providing greater comfort and safety of operation; more than \$32,000,000 was invested in steel passenger-train cars; and approximately \$31,000,000 was spent for the protection or elimination of highway grade crossings.

The following table summarizes some of the major expenditures made by the railroads during 1928 which provide greater safety in the transportation of both freight and passengers:

Automatic Train Control and Cab Signal Device	\$ 3,020,563
Automatic Block Signals	10,528,102
Interlocking Plants	5,501,010
Protection or Elimination of Highway Grade Crossings	30,809,416
Additional Main Track	17,306,808
Passing Track	6,461,896
Improvements in Switching Yards	19,489,958
Replacement of Wooden Bridges and Trestles with Permanent Concrete or Steel Structures	10,764,955
Heavier Rail	56,990,037
Steel Passenger-Train Cars	32,377,329

In every phase of operation the railroads have taken steps to eliminate hazards and lower risks of any hazards that are unavoidable. Within the last ten years the number of fatalities on railway property, owing to conditions within railroad control, has been reduced 61 per cent.



Figures 1 and 2. A structural steel plant before and after the installation of an up-to-date lighting system. The improvement in working conditions is obvious.

Foot-Candles and Casualties

Hazards Lurk in the Shadows of the Dimly Lighted Factory

By S. A. HEMAN

*Illuminating Engineering Bureau, Westinghouse
Electric & Manufacturing Company*

ONE of the greatest factors contributing to man's safety is his sense of sight. It is this sense that he uses to protect himself whether at play or work; in fact, his actions from the time of arising to retiring are largely governed by what he sees. Since man is so dependent upon this sense, good illumination is essential to enable this sense to function properly.

The average man thinks little about the energy expended merely in seeing things and no doubt is surprised to learn from specialists that 25 per cent of his bodily energy is consumed by the sense of sight—assuming that he has normal eyes and is provided with adequate illumination. Individuals afflicted with poor eyesight expend even more energy, while inadequate lighting imposes a still greater burden.

Adults use the sense of sight on an average of 16 hours a day, giving rise to 70 per cent of the muscular activities. Eight hours of this are spent in concentrated effort at the work shop where the best lighting possible, whether natural or artificial, should be provided. Consid-

ering the above statements, the importance of good illumination from a safety standpoint is at once apparent in:

1. The elimination of the more or less exhausted type of fatigue resulting in,
 - (a) The avoidance of accidents caused indirectly by effect of fatigue on the eye or retinal fatigue.
 - (b) The avoidance of accidents caused by laxity in operation due to the general or muscular fatigue.
2. (a) The elimination of accidents as a direct result from one of the common

defects of poor lighting such as stumbling over an object hidden by shadow.

The constituents of good lighting and an explanation of their bearing on safety are as follows:

1. *Sufficient illumination on all planes of work:* This qualification is governed by the amount of light required for quick and easy vision. If a workman has insufficient illumination the results are a slow and faulty performance; hidden accident

STANDARDS OF ILLUMINATION

Type of Work	Minimum Illumination Required by Code of Lighting for Factor- ies, Mills and other Work Places	Illumination Necessary for Efficient Factory Operation.
	(foot-candles)	(foot-candles)
Storage spaces	0.25	1 to 2
Where discrimination of detail is not essential, as hallways and handling coarse material.....	0.5	2 to 5
Where slight discrimination of detail is essential, as moving machinery and rough machinery.....	0.1	5 to 10
Where moderate discrimination of detail is essen- tial, as machinery and assembly work.....	2	10 to 15
Where close discrimination of detail is essential, as tool making and office working.....	3	15 to 20
Where discrimination of minute detail is essential, as sewing dark colored material and drafting.....	5	20 and upward



Figures 3 and 4. At the left is a textile mill illuminated only by direct lighting. At the right is the same room provided with adequate light well diffused and distributed.

hazards with insufficient time to avoid them, and a possibility of eventually developing permanent eye defects. If, on the other hand, plenty of light is provided, he sees objects whether moving or stationary and recognizes their details or characteristics at once. Moving objects require more illumination than stationary objects.

The accompanying table shows a synopsis of illumination intensities required by state codes and comparative values considered as good lighting practice.

2. *A well diffused light with a minimum of direct or reflected glare.* The avoidance of glare can not be stressed too strongly. Bright sources or reflections in the field of vision temporarily blind the worker and may

cause him to walk into moving machinery, stumble over unseen obstructions or encounter other hazards. Permanent eye defects may also result.

Glare is often mistaken for illumination. The fact that an interior to all appearances may seem to be brightly lighted is no criterion of the amount of effective light on the plane of work. The correct way to tell whether an interior is adequately illuminated is to take illumination measurements at the locations where work is done and compare them with that required by modern lighting practice.

Sometimes it is a case of having plenty of illumination but accompanied by glare. In this case, the eye functions to reduce the glare en-

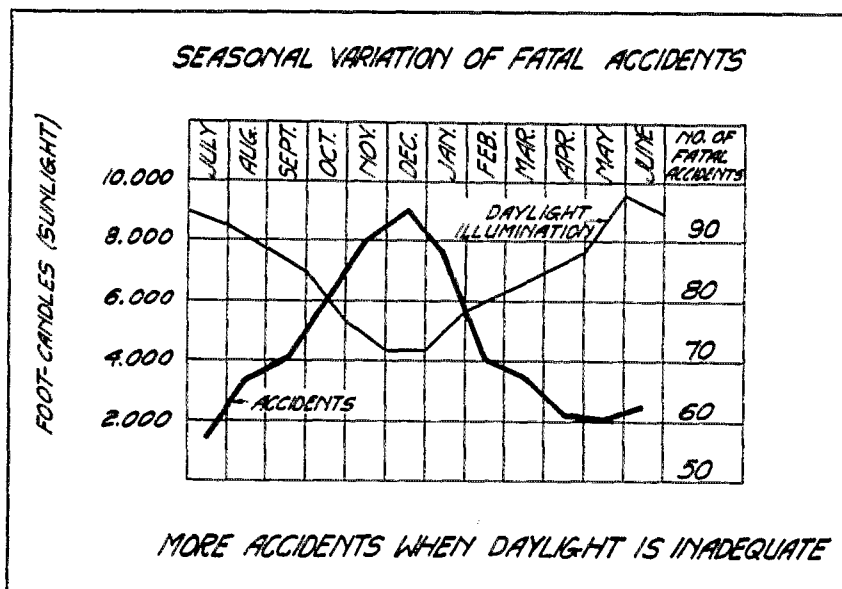
tering into it, but in doing so, minimizes the effect of the illumination.

3. *A uniform distribution of light with no objectionable shadows or harsh contrasts.*

Shadowed areas conceal hazards and pave the way for accidents. Heavily shaded areas are caused by improper positions of lighting units and the employment of improper or obsolete reflecting equipment. Illumination is said to be uniform when the minimum intensity, usually midway between luminaries. With uniform illumination prevailing, equally good vision is obtained in any location or position as in well-distributed daylight and consequently permits machines or benches to be moved about at will without creating shadows on the work.

"Insufficient and improperly applied illumination is a prolific cause of industrial accidents.* In the past few years numerous investigators studying the causes of accidents have found that the accident rate in plants with poor lighting is higher than similar plants which are well illuminated. Factories which have installed improved lighting have experienced reductions in their accidents which are very gratifying.

"Of even greater importance, poor lighting impairs vision. Because diminution of eyesight from this cause is gradual, it may take the individual years to become aware of it. This makes it all the more important to guard against the insidious effects of dim illumination, of glaring light sources shining in the eyes, of flickering light, of sharp shadows, or glare reflected from pol-



*From the preface to the Wisconsin Industrial Lighting Code.

ished parts of the work. To conserve the eyesight of the working class is a distinct economic gain to the state, but regardless of that, humanitarian considerations demand it.

"Finally, inadequate illumination decreases the production of the industries of the state and to that extent the wealth of its people. Factory managers who have installed improved illumination are unanimous in the conviction that better lighting increases production and decreases spoilage."

Figures 1 and 2 show a structural steel plant with improper and proper illumination respectively. One picture shows a shop which violates every principle of industrial lighting—insufficient illumination, heavy shadows, glare from bare lamps, and generally poor working conditions. The other presents a cheerfully lighted interior with all the advantages of good lighting. With lighting conditions as shown in Figure 2, conditions are favorable for reducing the number of accidents to a minimum.

Figures 3 and 4 show the illumination of a textile mill. The first of these employs a system of local lighting only. The effects are a general darkened room with a relatively small bright spot at each machine. This condition results in eye fatigue caused by the iris constantly changing to regulate the amount of light entering the eye. In addition, the aisles are dark, increasing the danger of stumbling. The sides of the machines are also dark, hiding from view some of their moving parts which might result in an accident when an operator is making a machine adjustment. Figure 4 shows the same room provided with an adequate system of illumination. This installation provides plenty of well diffused and distributed illumination which is essential in a pleasant and safe working place.

Figure 5 shows that the greatest number of accidents occur during the months when there is the least daylight. This seems to indicate that, despite the great advances in artificial lighting systems, too few companies have taken advantage of modern equipment. Various estimates definitely indicate that of all industrial accidents, 15 to 20 per cent are due to inadequate lighting. On this basis approximately 100,000 workers are continually out of work owing to disability suffered primarily through defective lighting. Assuming the economic loss as \$1,500 per person annually, the total loss to the nation is 150 million dollars caused by their idleness.

Character and the Car

By WILLIAM COLE

Chief of Highway Patrol, State of Washington

The automobile is a developer as well as a revealer of character. In becoming a safe driver a man acquires important qualities

NEVER was there given to man such an instrument for the expression of character as the automobile, for a man's true self is constantly depicted in the way he handles his car. Whether the dominant characteristic is human or divine you can discover through the medium of the steering wheel, as it is written daily on the concrete.

Statistics, to which we must always resort nowadays if our statements are to be taken seriously, offer us the pleasing testimonial that 85 per cent of the drivers in the state of Washington are self-reliant, safe, and desirable. Such an encouraging report as this would lead us to believe that the automobile is a developer, as well as a revealer, of character; certainly the effort a man expends in an honest struggle to become proficient in handling a car upon highways and through trying and constantly changing traffic reveals itself in his business and social life. The evolution of a good driver from a poor one cannot but make a man a better, safer husband, father, and business associate; cannot but make a woman stronger and more self-reliant in the home and in the social sphere.

To become a good driver demands undivided attention, while driving, to the things connected with handling an automobile. A good driver must bring his physical self to perform, at exactly the right time, and in the proper manner, the things his mental processes have indicated are necessary. In other words, he must bring his mental and physical selves into perfect coordination. Only then can he be sure of himself. Only then will it be possible for him to form the *habit* of doing the right thing at the right moment.

Perhaps these are the good driver's chief characteristics: application, concentration, decision, self confidence, self reliance, and perfection of judgment.

But what of the other 15 per cent,

the faulty drivers? First in this class are the absent minded, the mental wanderers, who properly fall into two divisions, the periodical and the habitual. Those of the first class should absent themselves voluntarily from behind the steering wheel during those periods when they are analyzing propositions foreign to the business of driving. The second should eliminate themselves from the driving class, or be eliminated by relatives or friends, before they become guilty of involuntary manslaughter or unintentional suicide.

Then there are the mentally incompetent, whose brains cannot be depended upon to react consistently to circumstances. In the elimination of this class of driver is found one of the greatest problems of traffic departments and police courts.

Within this same undesirable 15 per cent are those afflicted with carelessness, a trait commonly attributed to the young. There are, however, many older men and women in this careless class; while among our young people we often find a degree of judgment and self control far beyond our expectations. Some drivers are habitually careless, while others lapse only occasionally into carelessness. When a driver feels fatigue, or other factors contributing to fatigue, carrying him into dangerous indifference, he should quit the wheel until the cause is removed and until mind and body can coordinate for the safety of himself and others.

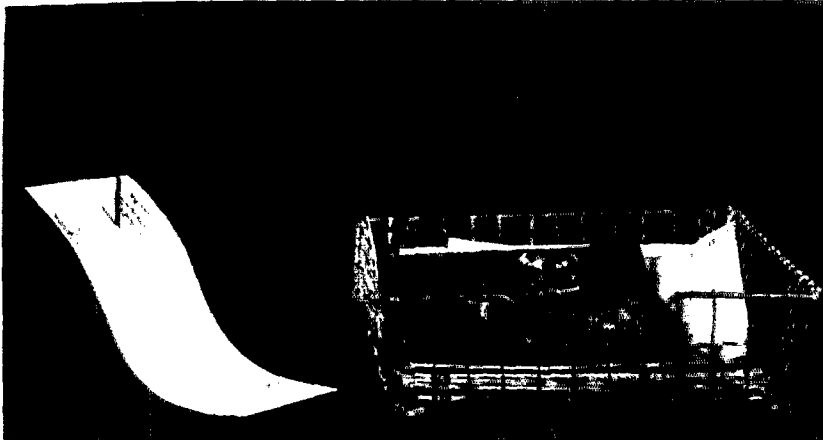
Always present in some degree in our 15 per cent is the criminal class. Some of its members are forever engaged in pursuits contrary to the law and are resentful of any interference or delay while they are upon the highway. Some are merely temporarily engaged in some act which is on the shady side of the law; hence they are temporarily dangerous, because they are unmindful of the rights of others. Still others are thorough criminals, welcoming any opportunity to endanger life or property and suffer no consequences.

It is the problem of society in general, and of courts, traffic departments, enforcement organizations, and welfare societies in particular, to reduce this dangerous 15 per cent.

THE SAFETY EXCHANGE

Everybody's Page

The Safety Exchange is a round table in print. It is a medium for the exchange of ideas that have proved helpful in accident prevention. If you have developed some useful device or method, send in a description, with sketch, blueprint or photograph if possible. Comments and criticisms regarding devices described on these pages are invited.

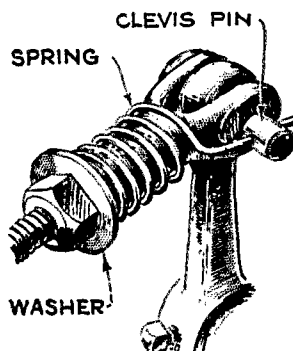


THERE IS A REAL POINT TO THIS KINK

All sorts of remedies have been suggested as a means of overcoming the hazard of desk spike files, but one of the most practical of all is that shown in the accompanying illustration furnished by the Eastman Kodak Company, Rochester, N. Y. It simply calls for the use of a wire basket, a wooden tray and a paperweight. What could be simpler? No need for the dangerous spike at all.

HERE IS A QUICKLY REMOVABLE COTTER PIN

Here is a quickly removable cotter pin, which is useful in places where a pin must frequently be removed from a



clevis for adjustment. A coil spring with one end straightened is slipped over the clevis, and the far end is rested against a washer placed between the clevis and locknut. When the pin is removed the coil spring is pulled back out of the cotter pin hole. While this device does not have general applica-

tion, it suggests a way of taking care of extraordinary conditions where a quickly removable cotter pin is needed and where safety depends upon the cotter pin staying in place while machinery is in operation. The illustration, supplied by E. Gunderson, Jr., Humboldt, Ia., is from *Popular Mechanics*.

THIS GUARD DROPS DOWN OVER THE SAW



An ingenious cut-off saw guard, which drops down over the saw when the saw is pulled forward into the wood, has been developed by the Gould Manufacturing Company, at Oshkosh, Wis. A counter weight in an out of the way place behind the saw pulls the guard back into a raised position when the operator lets the saw back into the main, stationary housing. It will be noticed, upon careful examination of the illustration, that the details of construction are quite simple and the entire

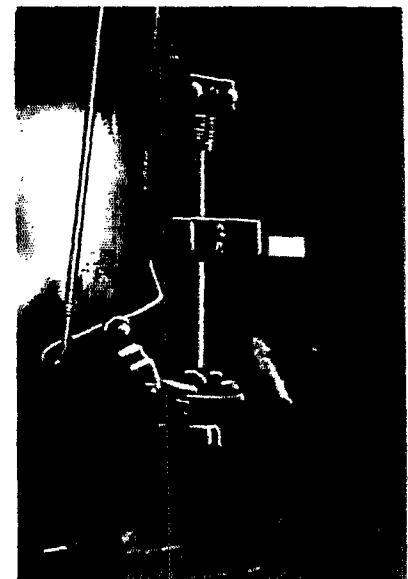
mechanism is of substantial as well as convenient design.

SAFETY KINK IN RAILING CONSTRUCTION

A 3x3 or 4x4 top rail of a wooden railing can easily be placed in such a position that all temptation to sit on it will be eliminated. All that has to be done is to turn it so that one of the sharp edges is at the top. This kink is also useful in places where it is necessary to avoid accumulations of hazardous dusts, for dust will not pile up on the sloping sides of the rail. Furthermore, there is no inviting horizontal surface on which to place tools and other articles which might roll off and fall to lower levels where men might be at work. Angle iron railings are of such shape that they can be constructed in a similar manner.

TAKING THAT EXTRA DROP OUT OF THE DROP HAMMER

A drop hammer safety device, which was designed by the National Malleable Castings Company some years ago, still has a wide field of usefulness. It consists of a heavy vertical spindle mounted in bearings on the hammer frame. It carries an equally heavy dog which, by a series of levers and a connection to the overhead mechanism, swings into position under the hammer when in the raised position thus preventing it from dropping more than one drop with one release of the treadle.



PROTECTION FOR THE MINERS RIDING SHAFTS

Here is an interesting group picture made at the Eastern mine of the Eastern Lead & Zinc Company. It shows the can and long bail and bonnett employed on this company's properties to protect the men. Note particularly the bonnett which will fend off falling objects while men are riding the shaft.



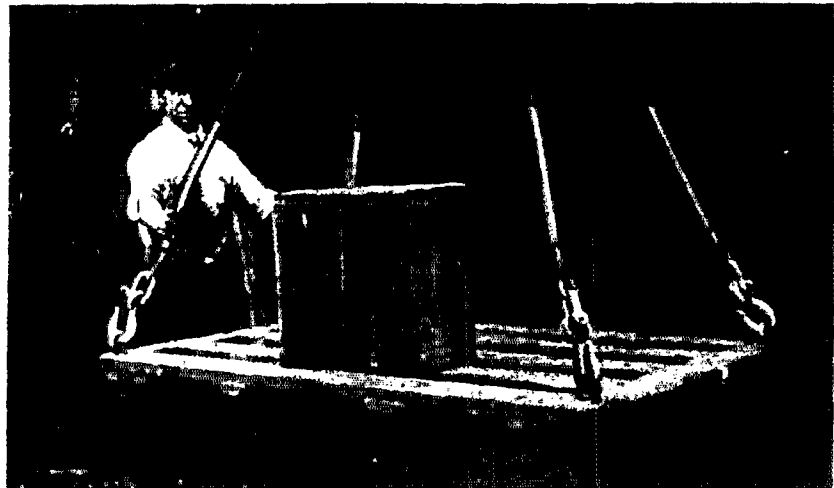
The hooker is wearing an army type helmet generally used by hookers and bumpers on this property.

EVER HEAR OF THIS WAY TO TEST CHAINS?

To detect deep but imperceptible cracks or similar flaws in chain links or hooks, soak them thoroughly in some light oil long enough to permit the oil to soak into any open spaces; then wipe off all traces of the oil on the surface. After this has been done coat the entire link or hook with whiting. After the whiting has dried the oil will begin to appear through it wherever there are deep-seated flaws having surface openings.

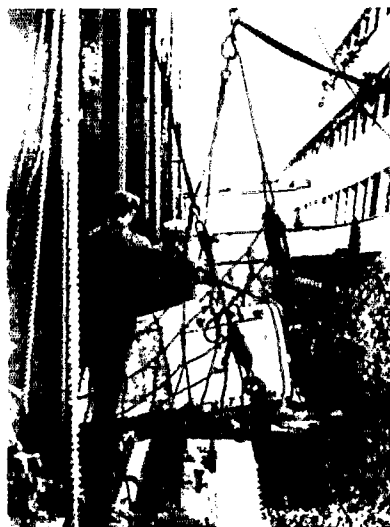
THIS OLD SAFETY DEVICE IS OFTEN OVERLOOKED

In spite of well-known and easy methods of protecting the dangerous frogs and switchpoints in car tracks, many accidents are still caused when feet are caught and gripped with a vice-like hold. Here are two pictures showing a danger point in a mine "before" and "after" installing an old and simple



remedy. The device consists merely of supplying specially cut wood blocks, which may be termed, for convenience, "frog guards." This simple remedy was found in the early history of the safety movement, but it is astonishing how frequently it is neglected today.

GUARDING THE LOAD-PLATFORMS AT SHIP SIDE



This picture illustrates safety features in the loading and unloading platforms used by T. Hogan & Sons, Inc., at the docks in New York City. The net arrangement is made of stout rope. It protects the workmen from slipping into the water, also the freight, and the guarding cables are flexible enough not to be damaged by the draft.

RUBBER PROTECTION FOR HANDS ON SLING CABLES

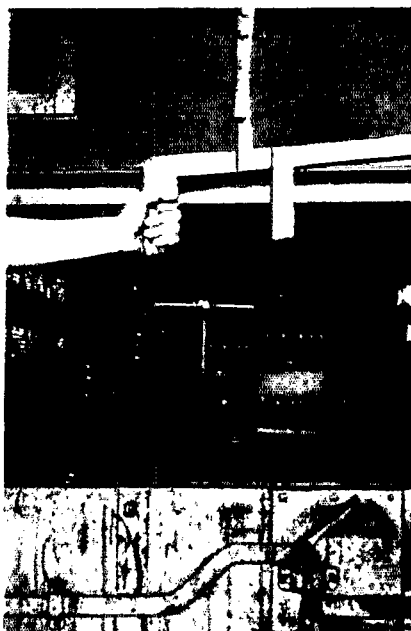
To save the hands from puncture wounds caused by loose ends of wire bridle splices, H. McCombe, gearman for the North Coast Stevedoring Co., set about to find something that would protect and at the same time give service commensurate with cost. Second-hand multi-ply steam or air hose seemed fitted for the purpose. A single set of bridles served with a good grade of hose will last from 18 months to two years. The hose is pulled on over the splice with block and tackle. The splice is prepared by snipping the wires from $\frac{1}{2}$ inch to $\frac{3}{4}$ inch long and then turning back with pliers toward the hook. After filling the wire with cup-grease the hose is forced down over the splice with great force. The bent wires prevent it from slipping back. The accompanying picture is supplied by M. E. Arkills, Waterfront Employers Assn., Seattle.

BLOCK AND WEDGE FASTENING FOR SLUSHER CABLE



This picture is shown through the courtesy of the Castile Mining Company, Ramsay, Mich. The block consists of a six-inch cast iron sheave, running on a one-inch pin, all mounted in a three-eighths-inch plate frame, so constructed that the guards which extend out prevent men's fingers from being caught in the sheave. The wedge consists of a two-inch round iron, split diagonally. These wedges are driven into short holes drilled in breast or side, one-half of the wedge being driven on the other half to tighten, and the operation reversed to extract the wedge.





HOW FINGERS ARE KEPT OUT OF ELEVATOR DOORS

By the addition of ordinary strap handles to the elevator door control levers, it was found that accidents were reduced noticeably in the Saginaw plant of The Columbia Mills. The strap handles eliminated the danger of the elevator operators having their fingers crushed between the vertical sliding doors as they came together. Thus it often requires only a very simple device to prevent nasty accidents.

ADJUST THE GANG PLANK TO VARIOUS SPACES

Many gang planks have been planned to fit securely certain spaces between the



car and loading platform; but now and then when this same gang plank must be shifted to an unfamiliar location it does not always fit the new conditions. Here is a gang plank of adjustable type devised by the Norfolk & Western Railroad which seems to insure a secure footing almost anywhere. The idea provides for a series of holes drilled along either side of the iron gang plank, into which bolts may be



dropped as necessary to adjust the plank to any reasonable opening.

THIS FORK WILL OFTEN SAVE THE FINGERS



What could be simpler in design than this tuning-fork shaped tool, which is used by the Pettibone-Mulliken Company to handle steel rail sections? It takes no stretch of the imagination to picture its value in the prevention of injuries to the men who have to move the rails around day after day.

ACCESSIBLE CONTROLS NEEDED ON DRILL PRESSES

If you have ever operated a drill press you can picture well what might happen if your left sleeve became caught in the drill and you were unable to reach the belt shifter or clutch lever. Many of these machines, especially the older ones, have the control levers in a rather remote position back of the table where they are awkward to reach in an emergency. There are numerous ways of providing extension levers and handles

or pull cords in connection with machine controls and there are few drill presses so constructed that it would not be possible to give the operators quick control mechanisms conveniently located so that they could shut off the power without assistance should either of their shirt sleeves become caught in the drills. Photographs and drawings of such home-made devices will be most welcome for publication in these columns.

HERE IS SOMETHING DIFFERENT IN CHAIN GUARDS

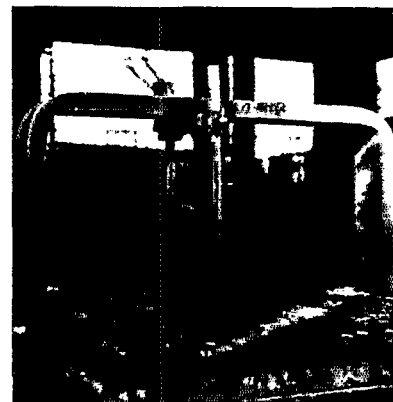
Here is a chain guard of unique construction which was developed by the Oliver Iron Mining Company, Eveleth,



Minn., to afford protection against flying material when performing cutting operations with a steam forging hammer. Chain links have been so connected together that they form an effective screen, and the large rings fastened at the top make it possible to remove it from the supporting rod and replace it with ease.

AN EXAMPLE OF SUBSTANTIAL GUARD SUPPORT

Here is a rear view of a circular saw guard employed by the American Radiator Company, which will be of special interest to those who have been looking for a substantial way of supporting a rip saw guard. The main member of the support consists simply of a piece of channel iron bent to shape and bolted to the sides of the table.



CHUTE AND DIAL FEED FOR POWER PRESS

The advent of dial feeds for power press operations marked a tremendous stride forward in safety. However, the combination of chute and dial shown in this illustration not only keeps the operator's hands out of danger but practically makes it unnecessary for anyone to work at the machine continuously. All that is necessary is for the operator, who may be attending several such presses, to fill the feed hopper with parts



as required. Unfortunately, the origin of the photograph has been lost track of; but it will be quite obvious to power press designers and mechanics how such a combination of devices can be made to function for certain kinds of power press work.

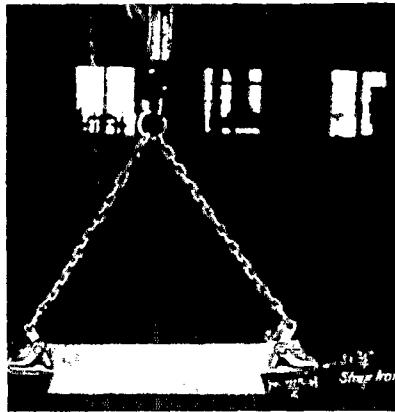
BULLETIN BOARDS ARE MOVED ABOUT THE PLANT

Big safety bulletins that can be readily seen and also be moved about have been provided for in a scheme worked out in the plant of the Ohio Oil Company by George W. Bell, industrial relations department. Two three-inch pipes are erected six feet apart and are connected with two three-quarter inch tie rods. Several such set-ups are placed at various points on the property. Then bulletin boards are made of one-inch pine and on these boards are painted various effective safety slogans. These boards are provided with hooks so that they may be hung on the tie rods between the posts. The boards are rotated at intervals, and after



a board has made the rounds it is repainted with a new slogan and again carries its message to the crews.

THESE SLING HOOKS DON'T SLIP OUT OF POSITION



The homemade hooks illustrated in the accompanying picture are, in reality, clamps and are used by the Oliver Iron Mining Company, Eveleth, Minnesota, for handling steel plates with crane slings. The approximate dimensions of the hooks illustrated are shown in the picture. However, they can, of course, be made in different sizes for various needs.

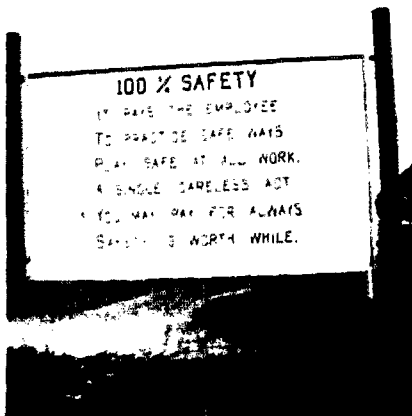
A SPECIAL SAFETY DEVICE FOR A SPECIAL PURPOSE

This is a combination jig and saw guard, devised by a safety committeeman of the American Seating Company, Grand Rapids, to lessen the hazards of the mitre saw. The illustration shows clearly the guard which extends over the top of the saw. It likewise shows how the wood is gauged and fed into the saw. However, the operation of the spring hinged gate in the foreground is not quite so obvious. As the wood goes through the saw this gate swings to one side to let it pass, but as soon as the wood has passed through it swings back into its original position to prevent the loose blocks from working around into a position in front of the saw, where they would be annoying to the operator and cause him to reach close to the saw with his hands to remove them. The guard is shown in use on a tilted table, but is, of course, effective also on a horizontal table.

TEMPORARY TENT PROTECTS PEDESTRIANS



To guard persons on the sidewalk from flying fragments of iron, workmen employed on lamp-post standards in Philadelphia rigged a canvas tent, about eight feet in diameter, to the pole on which they were working. The illustration is from *Popular Mechanics*. Light was not interfered with, and the long low-hanging side gave ample protection for pedestrians during an extensive overhauling contract. The work was further expedited by a special platform made in two half circles.





LEADERSHIP

MAN is moving forward much faster and in a mightier way today than ever before.

As the world progresses, new hazards come into being.

It has fallen to us, as leaders in the Safety Equipment Movement, to cast an "eagle eye" and be ever alert to these fast-changing conditions.

Who would have been so bold a quarter of a century ago as to predict that in 1929, there would be nearly one hundred thousand fatal accidents, more than one-fourth of them due to traffic problems?

In the mining field, particularly in the metal group, head injuries, due to falling materials, present a hazard for serious consideration. So, today, on page 33 of this magazine, we announce *The M-S-A Protective Hat and Better Head Protection*.

In each succeeding issue of this magazine, we shall announce a *New or Improved M-S-A Product*—the result of research and development by M-S-A Safety Engineers.

Knowing your own job is just half the game. *Know what's new in Safety Equipment. Look to M-S-A for Leadership. Read Our Advertisements!*

Mine Safety  *Appliances Co.*
Braddock, Thomas and Meade, Pittsburgh, Pa.

"EVERYTHING FOR MINE AND INDUSTRIAL SAFETY"

BETTER HEAD PROTECTION!

.... A DURABLE, Molded Safety Helmet, Without
Seams AND ABSOLUTELY WATERPROOF



The result of two years
research and develop-
ment in our experimen-
tal laboratories—a product of
M-S-A Safety Engineers

The M-S-A PROTECTIVE HAT

Prevents Head Injuries from Falling Materials

Miners, quarrymen, firemen, construction men and industrial workmen welcome
THE M-S-A PROTECTIVE HAT durable, light, well ventilated and
sturdy strong enough to withstand severe blows made of a
non-conducting material without exposed metal parts
waterproof and acid resisting the sweatproof head-
band is padded IT IS COMFORTABLE TO WEAR.

MANUFACTURED IN STANDARD HAT SIZES
WRITE FOR PARTICULARS

Mine Safety  *Appliances Co.*

Braddock, Thomas and Meade, Pittsburgh, Pa.

"EVERYTHING FOR MINE AND INDUSTRIAL SAFETY"

When writing advertisers, please mention NATIONAL SAFETY NEWS

Health in the Plant

By C. O. SAPPINGTON, M. D., Dr. P. H.

Director, Division of Industrial Health, National Safety Council

HEALTH is one of the great assets in modern business life. Like the water in the well, however, many people do not miss it until it is taken away from them.

It must be a peculiar psychological twist that makes people have their watches and automobiles inspected at regular intervals of time, while their bodies receive only second or third-rate consideration, or none at all.

"Too many of our citizens," says a famous health authority, "grow up and pass through what has been called a 'merry-go-round'." "So George finally died on the poor-farm!" "Yep, without a nickel. You see, he lost his health trying to get wealthy; then he lost his wealth trying to get healthy."

What is health anyway? To some of you it means eating and sleeping at all hours, working from twelve to fourteen hours a day and otherwise abusing your body in a way that you would not treat a machine of any kind and expect it to give good continuous service. To others of you, health means the conservation and nurture of all your physical and mental powers—for that is the only way that you can have health. We might mention Dr. Jesse Williams' celebrated definition of this term, "Health is to live most and serve best." Perhaps one could just as well say it, "live best and serve most," for to many successful people real living and serving are largely synonymous.

The Causes of Ill Health

There are almost as many differences of opinion as to how one may maintain his health as there are people talking about health; which means that someone is not informed correctly. Some of these opinions are amazing, but adhered to very strictly regardless of their unscientific foundation. For instance, it is still believed in certain quarters that an apple a day will really keep the doctor away; that the pores of the skin breathe, that people breathe in many germs in dusty air; that celery is good for the nerves; that fish

Before the Foremen's School of the Wheeling, W. Va., Safety Council.

Health and safety supervision are both carried on for the same purpose—protection—and the condition of the employees' health may have a direct bearing on accident production.

is a brain food; that the hair is full of sap; that pain in the back means kidney disease; that one should not drink water with his meals; and many other examples of beliefs that are seriously and conscientiously cherished.

An authority on industrial health classifies the causes of industrial sickness under two different headings:

1. The personal status or physical health of the individual and his personal hygiene or mode of life.
2. Health hazards in the environment (that is, due to the location on the world's surface), or may be occupational.

There can be little doubt that the mode of life, or the time spent outside of working hours, has a great deal to do with the health of the employee inside the plant. This, of course, is the responsibility of the man himself.

There are, however, certain effects about which I wish to speak more in detail, occurring either inside the plant or closely related to it. We will briefly mention these:

- I. Specific occupational diseases:
 1. Poisonings, such as lead, chromium, benzol, carbon monoxide, mercury, arsenic, and other types of industrial poisonings.
 2. Mechanical irritations, such as those produced by mineral dust which may act as a skin irritant, or in some cases produce diseases of the lungs.
 3. Friction and tensions, such as callosities, worn teeth, or certain bony overgrowths.
 4. Fatigue conditions produced by prolonged strains, or where tiring movements are constantly repeated.
 5. Infections, such as anthrax, glanders, machinists' boils, and others.
 6. Diseases following injuries, such as infections, deformities, and extensive scar formation.

7. Illumination afflictions, such as glassworker's cataract, inflamed eyes from electric flashes, or the effect of prolonged work in deficient light.
8. Temperature disabilities, such as heat stroke, frost bites, and others.
9. Noise deafness, produced especially by loud reverberating noises.
10. Atmospheric pressure diseases, such as various forms of compressed-air illness, sudden concussions, or effects due to rarefaction of the atmosphere, sometimes seen in aviators.

- II. Diseases partly occupational, involving hazards found elsewhere (such as personal, housing, recreational, geographical):
 1. Respiratory system.
 2. Circulatory system.
 3. Urogenital system.
 4. Alimentary system.
 5. Skin.
 6. Nerves and muscles.
 7. Eye and ear.
 8. Bones.
 9. Glandular system.
 10. Nutrition.

- III. Occupational health complaints, namely, predisease conditions manifested by attacks of headaches, sleeplessness, indigestion, constipation, diarrhea, aches, pains, numbness, weakness, cramps, stiffness, tiredness; itching and burning of the skin, colds, coughs, etc.

- IV. The so-called nonconformities which are aggravated by occupation, such as postural defects; habit or method defects which waste energy.

Health and Industrial Safety

There has been much philosophical discussion and speculation concerning the distinguishing elements of health and safety. If you attempt to separate injury from disease and further, to distinguish between occupational and other disease, you will appreciate the tremendous task put upon the courts and the legal profession.

Naturally, you will reach the conclusion that there is no well-defined line of cleavage between the two important industrial assets of health and safety.

Again, you will realize that where health and safety supervision are carried on, the objective is the same, namely, protection.

Where health and safety supervision breaks down, as may sometimes unfortunately be the case, the

SAFETY

SERVICE

Davis Gas Masks

THE NEW SERIES OF RED-D RUBBER



M-I Type Canister Mask
with 650 cc Canister

The compounding of rubber has advanced greatly in the last few years.

Davis Emergency Equipment Co. brings to mask protection the latest development in Long Life, Durable Rubber Compounds.

All Davis Masks—whether Canister or Air Line Types—are now made of Red-D Rubber.

This puts Davis Masks in a class by themselves.

Red-D Rubber has a marked increased tendency to hold its shape.

Its resistance to abrasion means greater wearing qualities.

Its aging test shows remarkably long life.



Type M-O Canister Mask
with 2000 cc Canister

BULLARD-DAVIS

INCORPORATED

67 WALL STREET,
NEW YORK CITY

275 EIGHTH STREET,
SAN FRANCISCO, CAL.

- ☐ Please send me copy of Bulletin 201 describing the new M-I Masks and 650 cc Canisters.
- ☐ Please send me copy of Bulletin 202 describing the new M-O Masks and 2000 cc Canisters.
- ☐ Please send me copy of Bulletin 301 describing the Air Line Masks.

Name

Company

Address

67 WALL STREET
NEW YORK CITY

BULLARD-DAVIS
INCORPORATED

275 EIGHTH STREET
SAN FRANCISCO, CAL.

When writing advertisers, please mention NATIONAL SAFETY NEWS

result is also the same, namely, disability, reduction of earning power and economic loss both to the employee and employer.

Fundamentally, then, there are good reasons for assuming that health and safety should be promoted together.

The condition of the health of the employee may have a direct bearing on accident production in four general ways:

1. By the occurrence of correctable physical defects, which produce a chronic sub-standard condition.
2. Through the incidence of minor illnesses, which temporarily produce lowered vitality.
3. Because of mental incapacity or maladjustment which endangers good judgment.
4. On account of working environment, or because of processes involving health hazards, or related factors.

What Can You Do?

The space does not permit of the giving of detailed directions for each individual as to the best way of maintaining health, but at least some fundamental principles can be mentioned:

1. *Remember that high living makes for low vitality.* You have a certain amount of energy given to you—use it discreetly, for when it is finally exhausted, there is no further supply. And use it for the things you have decided are really worth while. That means to be moderate in all things, food, drink, clothing, work, play and your point of view.

2. *Have a hobby.* Probably the one thing that keeps men from losing their mental balance when everything seems to have gone awry, is a tremendously interesting and absorbing hobby. If you are not already vitally interested in something outside your regular work, you are missing a great part of your life. Money is but a means to an end—there are other things worth while in life. If more people had hobbies, there would not be so many cases of nervous breakdown.

3. *If you would keep youthful, associate with youth, think youthful thoughts and do youthful things, adapted to your age and station, of course.*

4. *Put your health on a business basis.* Lay out a budget for your yearly physical and mental upkeep. Have a periodic health examination on your birthday each year whether you have any ailment or not. It is

How Good Was Your 1929 Accident Record?

IF YOU will send your 1929 accident record to the National Safety Council, "Industrial Accident Statistics" 1930 edition, will answer this question. This publication ranks the reporting plants in an industry on the basis of their accident records for the year. It shows the accident situation in your industry in comparison with the situation in other industries. It indicates the progress of industrial safety in the United States.

Your accident record will be considered strictly confidential. Company names are NOT published. You will be able to identify your company by a key number known only to yourself and the Statistical Bureau of the Council.

Forms for reporting accident data were sent you from the Council headquarters in December. Safe Practices Pamphlet No. 21 will assist you in entering the information. Write the Council for a copy, or for any information you want on reporting methods.

Support the activities of your Section and of the Council as a whole by reporting your 1929 accident experience!

better to be inspected when suspected than dissected when infected. You can add years of happiness and efficiency to your life by the correction of minor defects before they become serious troubles. He who cures disease renders a great service, but he who prevents it confers a bigger favor.

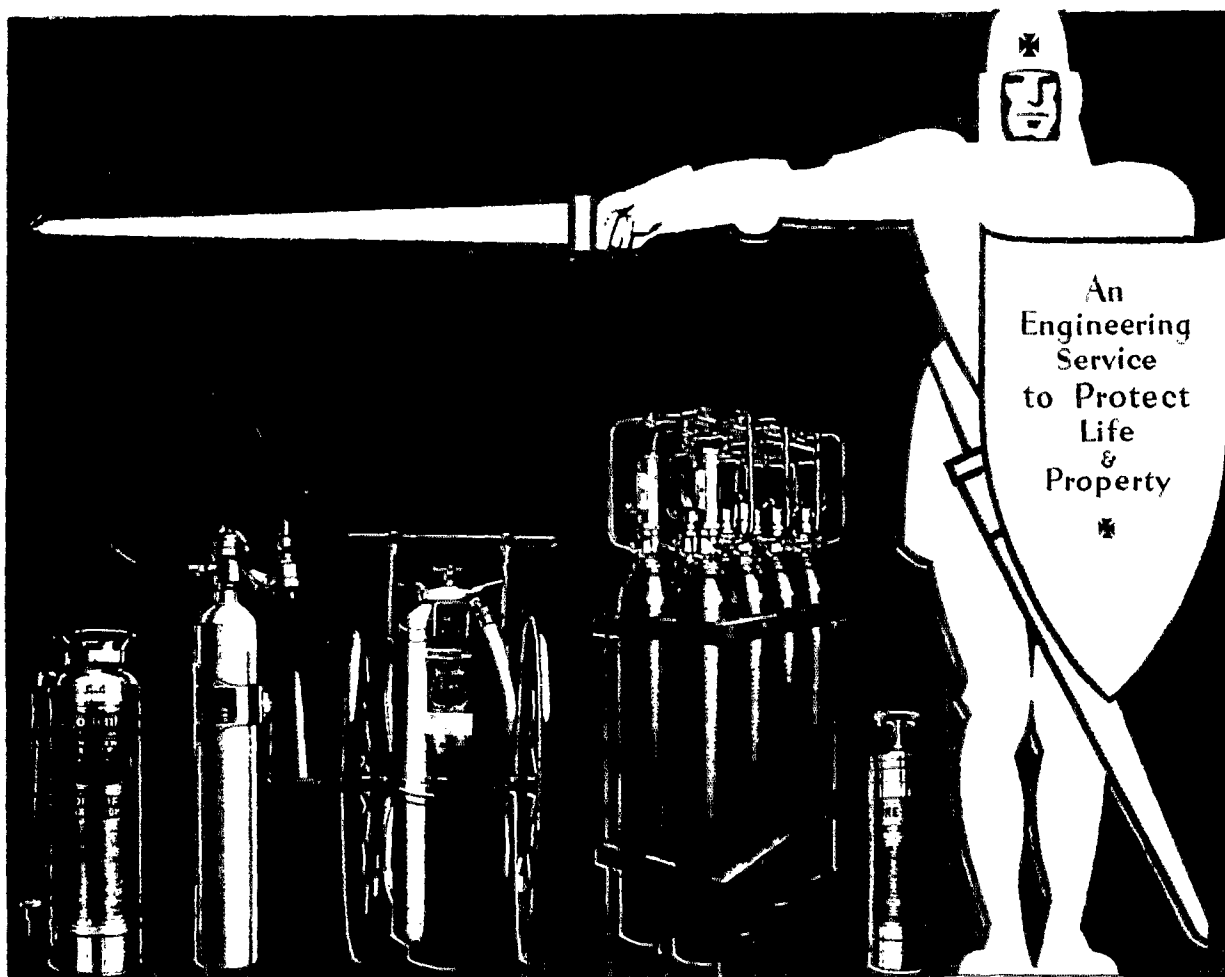
K. C. B. has said many things well; but he has said something so apropos that he should be quoted here:

I know a man
A very wise man
In a lot of ways
Who is the head
And owns the most
Of a large concern
And works all day
And keeps in touch
With everything
About the place.
And there isn't a branch
Of the enterprise
Or a bit of detail
In the whole concern
That he doesn't know.
And there isn't a job
In the whole concern
That he couldn't fill.
And there isn't a man
In his employ
Who could step right in
And fill his place,
And I'll say for him
There isn't a man
I have ever known

Who all the time
Keeps closer tab
On the little things.
And, just as an instance,
Let's take his trucks,
His auto trucks
That come and go the whole day long.
He knows them all.
And he insists
That the hired men
Who care for them
Shall see to it
That they shall have
Just what they need
Of oil and grease
And everything.
And every week of every month,
Or whenever it is,
They are overhauled,
And tightened up
So there'll be no fear
That they'll break down.
And so it is
In the shops he has
Where machinery is.
And there isn't a thing
That he can buy
Or men can do
That isn't bought
Or isn't done
To get the best
From each machine
And prolong its life—
And isn't it strange
That this same man
Who never denies
To some machine
Or auto truck
Whatever it needs
To keep it free
From jars and jolts.
And who sees to it
That they shall have care
So wheels will run
And cogs will fit—
Isn't it strange
That this same man
Doesn't care at all
About the wheels
And about the cogs
In the human machines
That work for him
And doesn't care
If they have the things
That a human needs?
To keep these cogs
And keep these wheels
Running smoothly on.
And doesn't worry
If one breaks down
For he always knows
There's another one
To take his place.
And isn't it strange
That the care he gives
To his machines
And auto trucks
He also denies
Unto himself,
And never once
For years and years
Has he been laid off
To be overhauled.
And isn't it strange
That the world is full of
Men like this?
And isn't it strange?
I'll smoke all day
And sit up late
And forget my meals
And still
I'll oil and clean my Underwood,
And feeling tired
And all upset
I'll sit me down
And try to work.

I THANK YOU.

FIRE — AN INCIDENT OR A DISASTER ?



Back of these products is a service that works with you

American-La France and Foamite products include every recognized type of fire-fighting equipment—from small one-quart extinguishers to automatic systems. They embody 85 years study of the science of fire control. Today, one or more types of this protection is guarding all kinds of industries against fire...And, in addition, there is an engineering service back of these products designed to work

with you. Our Fire Protection Engineers are at your disposal. Under your supervision, they will survey your plant and lay out a complete fire protection plan for you.

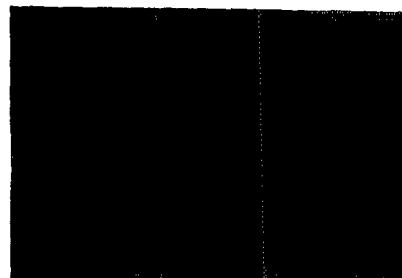
They will sit in with you when the question of type of equipment comes up. Their advice will be unbiased, because of the wide range of equipment made by the company they represent — Foamite-Soda-Acid—Fire Gun (Carbon tetrachlo-

ride), ALFITE (Carbon dioxide), Non-Freeze—hand operated and automatic equipment of all types.

An engineer will, without obligation, come to your plant to discuss fire protection. Write American-La France and Foamite Corporation, Engineers and Manufacturers, Dept. G-23, Elmira, N. Y.

AMERICAN-LA FRANCE AND FOAMITE PROTECTION
A Complete Engineering Service
For Extinguishing Fires

When writing advertisers, please mention NATIONAL SAFETY NEWS



Removing the Hazards of Mechanical Refrigeration

By JOEL I. CONNELLEY

Chief, Bureau of Sanitary Engineering, Chicago Department of Health

THE hazards of mechanical refrigeration have been the subject of much discussion during the past few months. Several deaths and non-fatal injuries have occurred in Chicago, and these accidents have given a tremendous impetus toward greater safety in the use and handling of refrigerants.

This article will present the viewpoint of a municipal bureau, a portion of the Department of Health, to which is submitted the problem of protecting the people of the city from a rather newly recognized danger to health and life. I said "health" first, because usually a lifetime of impaired health is a far worse fate than the sudden loss of life itself. Because of the fact that progress in health and safety work is so frequently expressed in lowered death rates, the general public, and occasionally we ourselves, perhaps, may overlook the fact that the protection of health is as important and as difficult a task as the prevention of unnecessary premature deaths.

In stressing health hazards, the Department of Health has never taken an antagonistic attitude toward mechanical refrigeration. On the contrary, the safeguards demanded by public officials should be regarded as a distinct aid to the industry, by helping to eliminate the unscrupulous and careless whose misdeeds react unfavorably upon good and bad alike. Reasonable and necessary restrictions upon installations of systems and upon the use of toxic refrigerants tend to prevent oppressive and unnecessary measures which might result from hysteria over avoidable accidents, and it has been our purpose to give the public the safety it demands without working any hardships upon the business interests in this field.

Newer Refrigerants

The use of the newer refrigerants has introduced new fire, explosion and health hazards. An interesting comparison of the former two, i.e., fire and explosion hazards, is afforded by

Before the Chemical Section, Eighteenth Annual Safety Congress.

To remove the health hazard of mechanical refrigeration the amount of refrigerant that can leak into dwellings must be strictly limited and a distinctive odor or irritating property given to it so that ample warning will be provided.

the last four lines of Table 1 on page 3 of "Safe Practices Pamphlet No. 61," published by the National Safety Council. This shows that the hydrocarbons used as refrigerants, namely, ethane, propane and butane, are very combustible and explosive. Larger quantities of ethyl chloride, methyl chloride and ammonia, in the order named, must be present in the air before reaching the lower explosion limit, and the time necessary to develop maximum pressure increases and the maximum explosion pressure decreases in the same order. Sulphur dioxide and carbon dioxide are, of course, non-combustible.

Safety features to guard against explosions include safety valves, emergency blow-off valves to be opened by firemen in care of a conflagration, and vents to conduct the refrigerants to a suitable absorber or location outside the building. These facts have been well known for years.

Other facts, not so well known before, have been emphasized by recent accidents. Ten deaths occurred in Chicago from the escape of a refrigerant said to have been deliberately chosen by some manufacturers because available information then indicated that it was less toxic than others. The fallacy in making this choice was in confusing toxicity and danger. Thus the less toxic material was actually proven in use to be more dangerous, because it lacked a warning property. Methyl chloride is the substance that caused the deaths. These systems were of the multiple-unit type, which, of course, contain many times the quantity of refrigerant that is used in the

ordinary individual outfit, and this feature increased the hazard of these systems as then constructed.

The writer entered a room in which three persons had just died from breathing this gas, escaping from the refrigerator, and even with the spectacle of the dead bodies before his eyes, there was no fear of death imparted by the odor of the gas. The real danger lies not so much in highly toxic refrigerants which drive one quickly from the room because of their irritating effects on eyes or mucous membranes in nose and throat, but rather in non-irritating, and especially in anaesthetic, types of substances, from which the exposed person normally makes no attempt to escape.

In an effort to allay the public apprehension caused by the newspaper publicity given to the recent tragedies, comparisons have been made with non-suicidal illuminating gas deaths, the number of the latter being higher than those from refrigerants. On the other hand, the number of people exposed to possible leakage of illuminating gas was much greater. An analysis of causes shows that most of the latter were due to accidental opening of the gas cocks, or the extinguishing of the flame by wind, boiling over of cooking vessels, and similar causes, and that very few were due to leaks in the pipes.

Causes of Leakage

The causes of leakage of refrigerants have usually been found to be defective joints in piping and poor connections to the evaporators. Since long exposure to a small leak of methyl chloride, and possibly to others, is more dangerous to life than a brief exposure to larger concentrations, great care must be exercised to prevent even small leaks into dwellings. A hazard that may be tolerated in a factory or workshop may be intolerable in the home, for it is at home that mankind expects to recuperate from exposure to the dangers and fatigue of his work. Small children are prevented by law from going to work, on

(Continued on page 97)



When writing advertisers, please mention NATIONAL SAFETY NEWS

Ten Years of Safety Work on American Railroads

By THOMAS H. CARROW

Superintendent of Safety, The Pennsylvania Railroad Company



THE total number of persons accidentally killed yearly on American railroads from all causes dropped from 9,286 in 1918 to 6,678 in 1928, making a reduction of 28 per cent. Injuries from all causes fell off from 174,575 to 85,570 in the same period, of 51 per cent. These figures include highway crossing accidents and trespassing accidents over which the railroads have no control but which make up three-quarters of all fatal injuries.

The number of passengers killed in train accidents in 1928 was only 16 as compared with 261 in 1918, making a reduction of 94 per cent in ten years, from which it is plain to be seen that the hazard of travel on American railroads is quite negligible. In fact, only one passenger was killed in train accidents in 1928 for every fifty million passengers carried on railroad trains.

Notwithstanding this progress, however, the railroads are still further improving their equipment and signaling systems and are constantly tightening up on the enforcement of rules and regulations to insure greater safety.

The number of persons killed in the United States in 1928 while unlawfully trespassing on railroad trains and tracks was 2,487; the number seriously injured was 2,367. But notwithstanding this heavy toll of unnecessary deaths and injuries, the reduction in the last ten years is 24 per cent in the number killed and 16 per cent in the number injured. As compared with twenty years ago, the reduction in the total number of persons killed and injured while trespassing on the railroad is about 50 per cent.

This marked reduction in accidents to trespassers has been brought about by public education, more efficient and intensive police protection provided by the railroads, and a better understanding on the part of the public generally of the dangers of trespassing on railroad tracks. The problem is still far from solved, since more than a third of all persons killed on the railroads are trespassers, many of whom are children.

Before the Steam Railroad Section, Eighteenth Annual Safety Congress.

The lives of thousands of passengers, employees and trespassers have been saved since 1918 through organized safety work on American Railroads.

In 1928, 2,568 persons were killed and 6,666 were injured at railroad highway crossings, representing a numerical increase of 39 per cent in fatal injuries and 42 per cent in non-fatal injuries compared with 1918. Of all the accidents that occur on railroad property, there are none which are more directly attributable to negligence, often of a criminal nature, than railroad crossing accidents.

In nearly every such accident, the cause is found to be careless or reckless driving of automobiles when approaching or running over railroad tracks. But, as bad as the crossing accident record is, no other class of accidents better illustrates the possibilities of public safety education, and while the numerical increase in all casualties at highway crossings is about 40 per cent, when the accidents are considered on the basis of the number of automobiles registered, there has been an actual decrease.

In 1928 the number killed and injured per 10,000 automobiles registered was 3.42 as compared with 6.90 in 1918, or a reduction in the rate of 50 per cent. This is undoubtedly a result of the public safety education that has been carried on throughout the country in the last few years, in which the yearly Careful Crossing Campaigns of the American Railway Association have played a big part. Without these campaigns and related activities the toll of crossing accidents would be a great deal worse than it is today.

When all automobile drivers are made to realize the public will not stand for reckless driving, whether or not accident results, there will be a falling off in the number of persons killed and injured at highway cross-

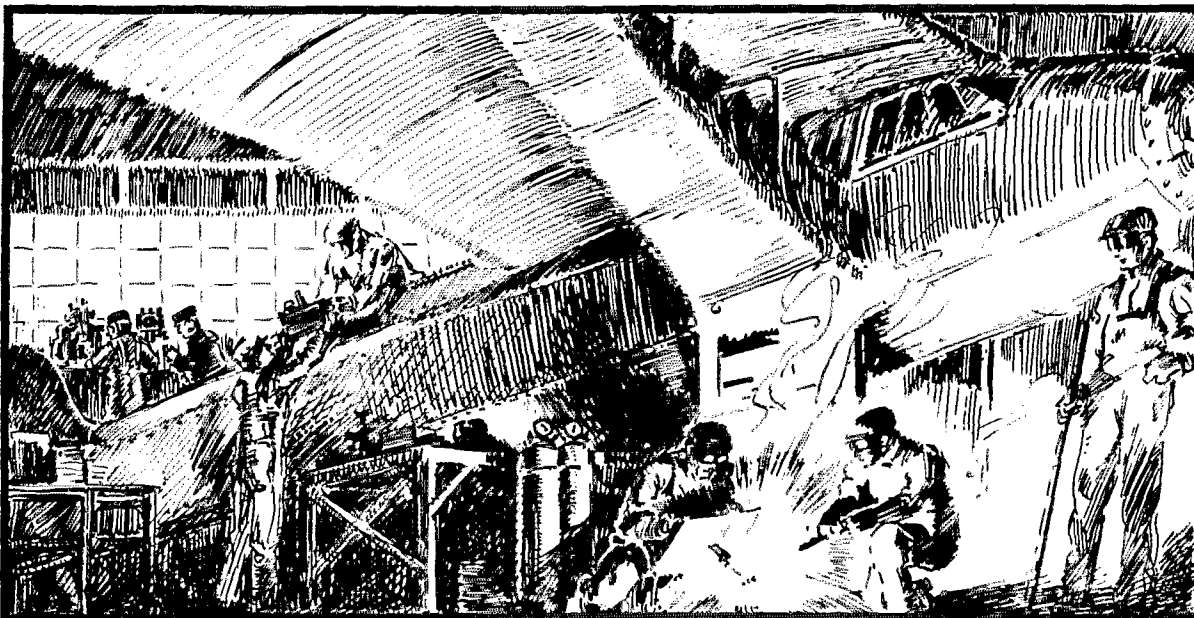
ings and on the streets and highways as well. Reasonable laws and strict enforcement is the remedy and the only remedy.

In the last ten years the number of employees on duty killed yearly on the American railroads has dropped from 3,250 to 1,243, a reduction of 61 per cent; the number injured has dropped from 155,418 to 69,692, a reduction of 55 per cent, representing as fine a piece of humanitarian work as ever was performed by any business enterprise in the world.

These results were achieved through improved methods of selection, training and supervision of employees and by improved design, construction and maintenance of track and equipment, all of which was brought about by greater interest in the prevention of accidents by officers, supervisory forces and employees in the several departments of the railroads.

From the foregoing facts and figures it will be seen that within the last ten years the hazard of passenger travel on American railroads has almost disappeared; that the number of persons killed and injured while unlawfully trespassing on railroad tracks and property has been substantially reduced; that, although the highway crossing accident situation is still extremely serious, the reduction in the number of casualties as related to the number of automobiles registered shows that public safety education has had a pronounced effect and, lastly, that the hazard of "railroad employment" has been greatly diminished.

Such progress as has been made in safety has been due to the inculcation of the principle of safe thinking and safe acting and although the improvement in accident record thus far made is gratifying, the record as it stands is still sufficiently bad to constitute a challenge to the public in general and the railroad management in particular to further intensify their efforts. Speaking for the railroads, we know that this will be done and if we read the signs of the times aright, the public generally will fully meet their obligations in the matter.



WATCH OUT FOR BURNS!

THEY ARE DANGEROUS!

ALWAYS most painful—with the danger of infection ever present. There is no casualty that more adversely affects the spirit of a factory worker than a bad burn. 'Carofax' is First-Aid for Burns! A soothing, protective ointment which relieves pain, reduces swelling and restores tissues.

'CAROFAX'

(SOLIDIFIED CARRON OIL)

Good for Every Kind of Burn. Its 2% Phenol content has valuable antiseptic qualities.

'Carofax' should always be on hand for instant service in every factory.

BURROUGHS WELLCOME & CO., (U.S.A.) INC.

9 & 11 EAST FORTY-FIRST STREET, NEW YORK CITY

Associated Houses:

LONDON (ENG.) MONTREAL SYDNEY CAPE TOWN MILAN
BOMBAY SHANGHAI BUENOS AIRES

"Keep your 'Tabloid' First-Aid complete by maintaining a reserve supply of refills."

Protection

**'TABLOID'
FIRST-AID
PRODUCTS**

Order 'Carofax' through your Safety Supply Dealer. If you cannot obtain, please get in direct touch with us.

Please send me N.S.N.
'Tabloid' First-Aid Booklet
Firm Name
Address
Individual's Name
Official Capacity

Where Children Get Hurt

An Analysis of Accidents Among Children of School Age

By ALVAN D. BATTEY

Assistant Statistician, National Safety Council

LACK of data on accidents to school children has caused many persons to think they are few and unimportant. This opinion is disproved by reports received by the National Safety Council for September and October. Schools with an average enrollment of 215,000 report 1,302 accidents, or 6.1 accidents per 1,000 students. If accidents occur as frequently in succeeding months the rate for the school year will be 61.0 per 1,000 students. The 1,302 accidents resulted in 4,143 days lost from school, 3.2 days per accident.

Table I shows these accidents by grade and location. A few are omitted because of insufficient information. Rates per 10,000 student-days were computed to adjust differences in the length of the school month. In total, school buildings accidents are not important, which makes it especially significant that the rate for pupils in the 8th, 9th, 10th and 12th grades is 0.3 and 0.4.

The highest rate in school grounds accidents is in the senior high school grades. Football is the chief cause. School grounds accidents also occur frequently in the primary grades. The highest rates for accidents occurring while students were on their way to or from school are in the 11th and 12th grades.

Home accidents form the largest group and are important in all grades. The distribution of other ac-

Table II: Total Days Lost and Days Lost Per Accident Classified by Grades, September and October, 1929.

Grade	Total Days Lost	Days Lost Per Acc.	Grade	Total Days Lost	Days Lost Per Acc.
All Grades	3881*	3.2	7th	325	3.0
Kindergarten	187	4.3	8th	322	3.7
1st	450	3.5	9th	270	3.2
2nd	343	3.4	10th	197	2.8
3rd	274	2.9	11th	150	2.6
4th	358	3.8	12th	82	2.0
5th	347	2.7	Unclass'd	75	2.7
6th	321	2.7			

*Includes 180 days that could not be distributed by grades.

cidents (including some traffic accidents and those happening at non-school playgrounds and gymnasiums) indicates that for high school students some major hazards exist outside the school and home.

The rate per 10,000 student-days for all accidents is 1.5. The 1928 industrial accident rate of plants reporting to the National Safety Council is approximately 2.0 per 10,000 man-days. This rate is computed from the accidents occurring during the work-day only, in contrast to the student rate which is based on all accidents, regardless of where and when they occur. In comparison, the accident rate for school children is low, but if differences in hazard are considered it is probably at least as high.

Table II shows the total days lost from school classified by grades and the days lost per accident. Children in the kindergarten experienced the most severe accidents while the rate

is high in the first, second and fourth grades as well. The rate of 3.7 for 8th grade students will probably fall when data for other months are added, as the majority of September and October accidents in this grade occurred in football games.

As additional information is accumulated during the balance of the school year other types of accidents may become as prominent as those pointed out above. It is believed, however, that the data already collected give a good picture of student accidents in the fall months throughout the country.

New York Woman Carries Own Traffic Signal

WHEN Miss Ida Lathers of New York City makes the short but perilous trip from the curb to the center of the street to board a surface car she does so under the protection of a pocket flashlight equipped with a red lens. She flashes this against the oncoming traffic, which, she maintains, shows little regard for pedestrians and makes it almost impossible to get to a street car.

Recently Miss Lathers wrote to Commissioner Whalen calling his attention to the necessity of adopting an individual traffic signal and asking him what he was going to do about it. In recent years she has found the streets growing more perilous and has adopted her traffic light as a crusade symbol as well as a protective signal.

Table I: Number of Student Accidents and Rates Per 10,000 Student-Days, September and October, 1929

Grade	Total*		School Buildings		School Grounds		Going to or from School		Home		Other	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Total*	1260	1.5	115	0.1	322	0.4	128	0.2	465	0.5	230	0.3
K'g'n	43	0.6	3	0.1	7	0.1	5	0.1	11	0.3	5	0.1
1st	130	1.5	6	0.1	40	0.5	10	0.1	40	0.6	17	0.3
2nd	101	1.3	4	0.1	28	0.4	16	0.2	32	0.6	8	0.1
3rd	95	1.2	7	0.1	28	0.4	6	0.1	23	0.4	9	0.2
4th	95	1.2	5	0.1	22	0.3	12	0.2	25	0.5	12	0.2
5th	127	1.8	4	0.1	32	0.5	10	0.1	30	0.6	18	0.4
6th	121	1.7	10	0.1	43	0.6	10	0.1	27	0.5	10	0.2
7th	107	1.5	15	0.2	12	0.2	14	0.2	29	0.6	18	0.3
8th	88	1.6	14	0.3	13	0.2	11	0.2	24	0.7	15	0.4
9th	85	1.7	22	0.4	13	0.3	6	0.1	16	0.5	16	0.5
10th	71	1.7	11	0.3	22	0.5	8	0.2	8	0.3	10	0.3
11th	57	2.1	4	0.1	22	0.8	7	0.3	6	0.3	10	0.6
12th	42	2.2	5	0.3	12	0.6	5	0.3	5	0.5	7	0.6
Unclass'd	28	1.5	1	0.1	5	0.3	3	0.2	8	0.6	8	0.6

*Totals do not equal sum of individual grades and individual types of accidents because of failure of some schools to furnish information in detail.

A Reduction in Long Distance Telephone Rates

*An Advertisement of the
American Telephone and Telegraph Company*

ON JANUARY 1, 1930, there is effective a reduction in various long distance telephone rates in the Bell System which on the present volume of calls means a saving of more than \$5,000,000 a year to the telephone-using public in the United States. This is the fourth reduction in long distance rates within a little more than three years. On October 1, 1926, they were reduced by \$3,000,000. On December 1, 1927, a reduction of \$1,500,000 went into effect. On February 1, 1929, there was a reduction of \$5,000,000.

THESE REDUCTIONS are in accordance with the aim of the Bell System to continue to furnish the best possible telephone service at the least cost to the public. Earnings must, of course, be sufficient to permit the best possible telephone service at all times and to provide a reasonable payment to stockholders with an adequate margin to insure financial safety. Earnings in excess of these requirements will either be spent for the enlargement and improvement of the service, or the rates for the service will be reduced. This is fundamental in the policy of the management.



When writing advertisers, please mention NATIONAL SAFETY NEWS

INDUSTRIAL HEALTH

A Non-Technical Symposium for Physicians and Laymen

By C. O. SAPPINGTON, M. D., DR. P. H.

Director, Industrial Health Division, National Safety Council

Cooperation in Industrial Health Work

THE group which is charged with the direct responsibility of health supervision in industry includes the foreman, the safety engineer, the executive, the physician and the nurse. Each of these persons has certain definite responsibilities which fit cooperatively into the finished picture presented by an adequate industrial health service.

What the Foreman May Do

The foreman is the lay liaison officer among the employees' group. He understands what the officers of the company desire from the men under his supervision. He gets to know his men very well, finally understanding their desires and ambitions, as well as their trials and tribulations.

The foreman should know details of all hazardous processes carried on by his men. He should know the dangers attending the use of injurious chemicals; he should be well acquainted with the intricacies of processes which are liable to affect the health of his employees.

It should be his duty to report to his superiors any noticeable injurious effects of the various phases of work upon the employees.

When men complain that certain processes or materials affect their health, he should be sympathetic. He must supplement his sympathy with action and see that prompt reports are made to the officers of the company, so that the condition may be remedied.

What the Safety Engineer May Do

The safety engineer is the lay technician among the personnel of industrial health workers.

He must be informed upon the technical aspects of the control of various industrial accident and health hazards. He must keep himself informed of progress in this specialized field, because it is to him that the management comes for the solution of such engineering problems.

He must cooperate actively with the plant physician in working out methods of protection for the employees. Usually the plant safety engineer is well trained in the engineering aspects of industrial hygiene, but he must not assume the prerogative of a physician which concerns itself directly with the effects of various accident and health hazards upon the human body.

It is only through a smoothly-functioning and cooperative relationship,

NOTE: This discussion of the various factors in cooperation in health work was presented originally in a paper read before the Eastern Pennsylvania Safety Conference at Bethlehem, Pa., December 5, 1929.

such as has just been indicated, that the plant safety engineer can be of greatest value in his field.

What the Executive May Do

The executive is the controlling officer and bursar of industrial health personnel, for it is he who has the authority and holds the purse-strings.

He it is who selects the safety engineer and the physician. Too often, however, he does not select his physician as carefully as he selects the highly-specialized types of technical men. Not uncommonly he makes his selection on the basis of a friendship, rather than upon true worth.

Where the industrial executive chooses his industrial physician with the same care and on the same standards of performance as in the case of other industrial officers and pays for such service accordingly, the results of the industrial health work will show a change for the better.

Furthermore, the industrial executive must demand a high standard of efficiency from his physician, seeing to it that the standard of health work equals that of private practice.

What the Physician May Do

The industrial physician is the professional technician in the field of industrial health endeavor.

He must realize that special training and experience are necessary for the fulfillment of his proper function in industry. It implies not only a knowledge of checking up injury cases, but an adequate study of heating, lighting, ventilation, drinking water, sanitary facilities, lunchrooms and related activities. It furthermore includes a study of the chemical hazards, the dangers to eyes, the risk of exposure to poisonous gases, dust, heat, cold and electricity. It entails the relative values of physical examinations, both before and during employment; the correction of physical defects; first-aid treatment for minor illness, and the study of mental hygiene in industry.

To secure the best results, the physician should be directly responsible to the plant manager. There are a number of instances where the plant physician has been placed under a department head and has had considerable difficulty in securing proper cooperation. This is considered a definite defect in organization structure by forward-looking executives.

Finally, the doctor's place in accident prevention and health promotion is one of utmost importance; whether he be plant surgeon, city health officer or administrative committeeman, he should be a party to all investigations, hearings,

examinations and proceedings which have to do with accidents and sickness.

As long as the causes and results of accidents and sickness are concerned with the human body and mind, the doctor's influence, study and advice will be prime necessities for the prevention of accidents and sickness.

What the Nurse May Do

The industrial nurse is the professional liaison officer between the plant physician on the one hand and the employee on the other.

There are many industrial plants in which the entire health service is administered mainly, if not entirely, by a graduate nurse. Even in association with the plant doctor, the nurse many times gives the first impression of what the plant health service really is. The nurse, therefore, can make or break the industrial health work in any plant.

It is now recognized that the successful health nurse requires special training and experience. Similar to the essential difference between the private practice of medicine and the practice of industrial health work by the physicians, industrial nursing of a high type presupposes not only special training, but a particular type of mind which adapts itself well to group work.

In relationship to the employer and employee, the industrial nurse has a double responsibility which is sufficient to tax the capacity of any person. He or she must be loyal to both and act in accordance with this principle.

There must be very close cooperation between the nurse and the physician, both in the plant, in the hospital, or as the case may be, within the home.

Finally, the industrial nurse will come to know the workers in the plant perhaps even more intimately than the foreman.

What the National Safety Council Does

We have often been told that this is an age of specialization. The busy foreman, safety engineer, executive, physician and nurse may often not have time to keep step with the progress made in solving administrative and technical problems in the field of industrial health.

The National Safety Council through its Division of Industrial Health now has available a prepared service which provides for unprejudiced, scientific information in this field.

Questions are answered on industrial health hazards, specific health problems are studied for members, methods and policies of industrial health administration are suggested; health educational campaigns are outlined; research in industrial health is conducted; a series of Health Practices Pamphlets maintained; a monthly News-Letter is available.

The National Safety Council can assist you in checking your proportionate part of the annual loss of ten billion dollars from industrial sickness.

WAR on invading GERMS

Oil Dermatitis Conquered

by the three Allies

1. Chemical Sterilization
2. Factory Sanitation
3. Personal Hygiene

All with the use of

WESCOL

the "Commanding" Germicide

At the present time, a series of intensive battles is being fought—not to destroy life but to preserve it and to alleviate suffering. The officers and soldiers are Safety

Engineers and Workers. The battle field is in the plants of the Automotive and Metal Working Industries; the enemy is OIL DERMATITIS and other industrial infections, and the ammunition

W e s c o l

the "Commanding" Germicide

The advances, the victories, the problems of this campaign have a direct bearing upon your life and health, upon the well-being of your workmen and upon the earning power and productivity of your plant.

CHEMISTRY'S VICTORY IN MEDICAL PROGRESS

For a long time the ravages of boils, pimples and blood poisoning transmitted from one worker to another through cutting oils and cutting compounds have baffled medical science and caused epidemic plant infections with considerable economic loss each month. Extensive research by leading bacteriologists of the country has proven that pus germs—although not originally present in new oils—are carried by the cutting oil and compound, infected during machine operation, from the dust and dirt of the plant, onto the skin of the workers and enter the pores, hair follicles or abrasions caused by small metal slivers, causing what is known as

OIL DERMATITIS

Sterilization of the oil by heat proved ineffective—being only intermittent, therefore

—a radical remedy—a powerful specific chemical germicide was needed—dissolving in the oil and compound to render it sterile at all times. Commercial Disinfectants have been tried and found wanting on account of physical, chemical and bacteriological deficiency.

Since the introduction of WESCOL a few years ago and now extensively used by the leading Automotive Industries of the country, the fight is won.

WESCOL is guaranteed 16 to 17 times stronger bacteriologically than pure carbolic acid when tested by the "Hygienic Laboratory Phenol Coefficient Method."—United States Public Health Service.

Ask for Booklet

"WESCOL—A Practical Germicide for use in Industrial Plants" referring to this publication.

WEST DISINFECTING COMPANY

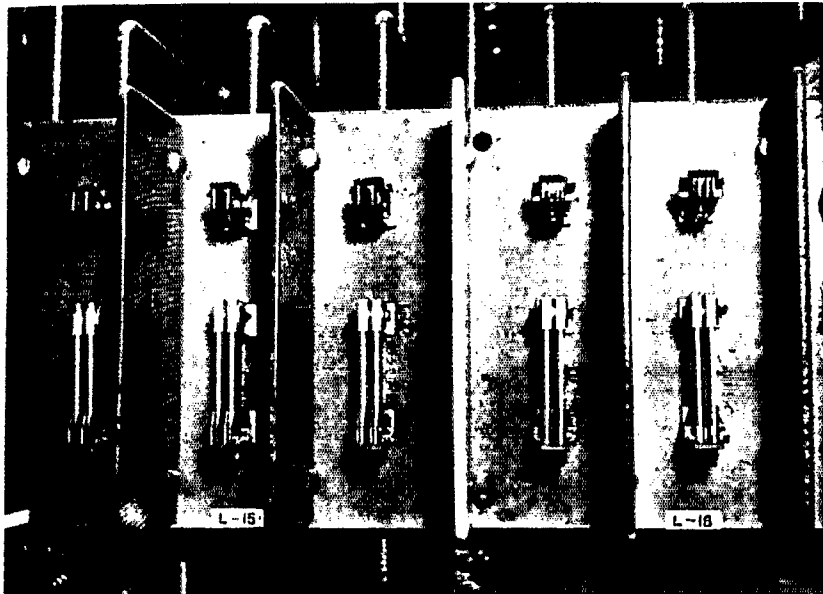
16 Barn Street, Long Island City, New York

Branch Offices in 42 Principal Cities

Designating Equipment in Sub-stations

By J. W. PEART

Manager, Hydro-Electric Commission of St. Thomas, Ontario

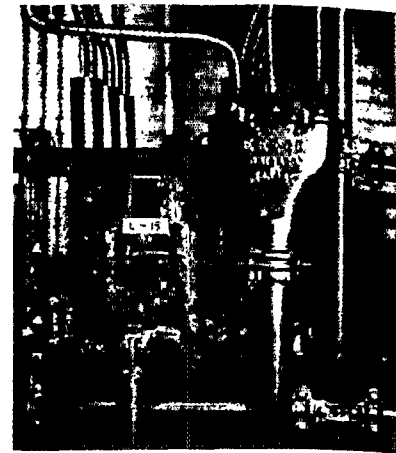


Method of placing circuit labels on disconnecting switches. Note method of separating circuits by color strip on baffle board.

SUB-STATION operators will appreciate that the matter of affixing tags to designate the various feeders, oil circuit breakers, transformers and disconnecting switches which they are required to operate from time to time is one that is given too little attention in many installations. Most switchboard panels come through from the manufacturer with a small brass card holder affixed in the required position, this holder carrying a sheet

of mica. It invariably falls to the lot of the chief or the operator himself to exert whatever drafting ability he may possess to place the numerals designating the feeder on a slip of paper, cut it to the required size and slip it into the card holder.

The result of this effort is far from satisfactory. In the first place, the space available is too limited to allow the designation to stand out plainly for easy interpretation. Secondly, dirt



Method of placing circuit labels on oil switches.

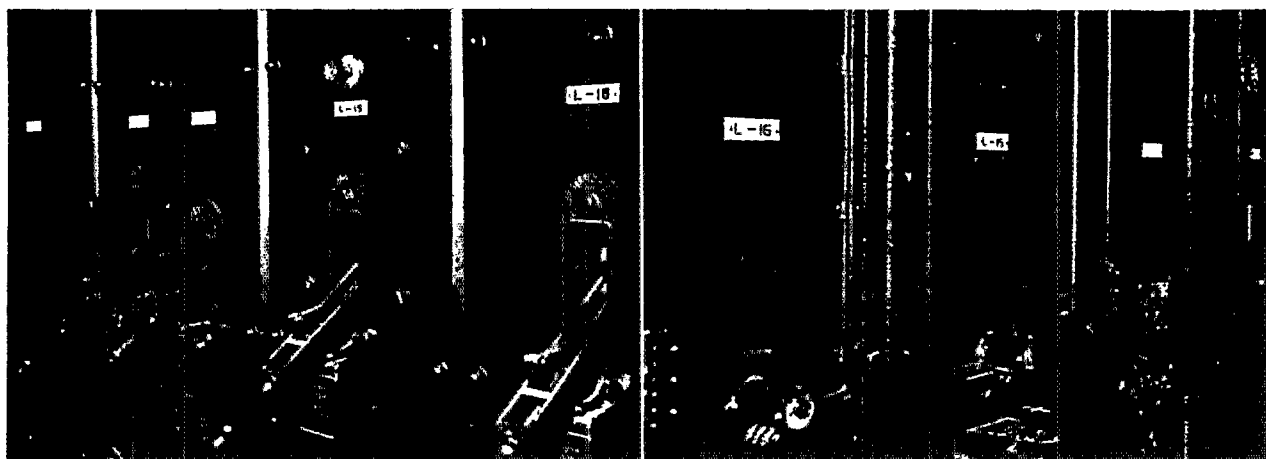
accumulates in these card holders which, together with a minute seepage of oil which occurs frequently, tends to obliterate the marking.

The writer has given this matter some consideration, realizing from years of operating supervision that an operator is liable to make mistakes if his controls and various pieces of equipment are not clearly designated. Mistakes in operation cannot be reconciled, therefore equipment must be clearly designated.

In solving this problem the writer has resorted to the use of enamelled plates, 3 inches x 1 inch, having a white ground with blue numerals or letters. If these plates are obtained with two $\frac{1}{8}$ -inch holes just large enough to take small brass screws they can be attached to the switchboard by a simple process of drilling and plugging.

If it is desired to distinguish controls on high tension oil breakers from those on low tension breakers, red numerals or letters may be used in one

(Continued on page 61)



It is advisable to place circuit labels on both front and rear of switchboard.

S A F E T Y S E R V I C E

The SERVICE of HUMANITY in INDUSTRY

There can be no greater responsibility,
no greater opportunity, than yours

... **T**HE development of
safety equipment plays an increasingly-important
part in industrial life . . . No contributions to
the advancement of our times transcend it.

And just as the medical profession and the
great chemical research organizations are con-
stantly striving for new medicines and new meth-
ods of guarding humanity against disease . . . so
are we ever fighting industrial mortality. Our
fight is your fight—your opportunity to protect
workers' lives is your greatest opportunity to
protect your hard-earned profits.

Our responsibility is very real to us . . . we are
dedicated to the great ideal of making industry
safer for both workers and owners.

First Aid and Safety Equipment
Years Ahead in Design
for All Branches of Industry

FIRST AID EQUIPMENT
DAVIS INHALATOR
ELECTRICAL SAFETY EQUIPMENT
DAVIS GAS MASKS
HARD-BOILED HATS
DAVIS FIRE BLANKET
UCC COMBUSTIBLE GAS INDICATOR
GENERAL ELECTRIC HAND CREAM
PYROL—FOR BURNS

Send for bulletins
describing the above.
Use coupon at right.

BULLARD-DAVIS INCORPORATED

67 Wall St., New York City 275 Eighth St., San Francisco, Calif.

Please send without expense or obligation, information on:—

☐ First Aid Equipment ☐ Davis Fire Blanket
☐ Davis Inhalator ☐ UCC Combustible Gas Indicator
☐ Davis Gas Masks

(other items)

Name.....

Address.....

Company.....

When writing advertisers, please mention NATIONAL SAFETY NEWS

Will Lightning Destroy an Airplane?

Engineers Conduct Tests with Artificial Lightning To Devise Means of Protection

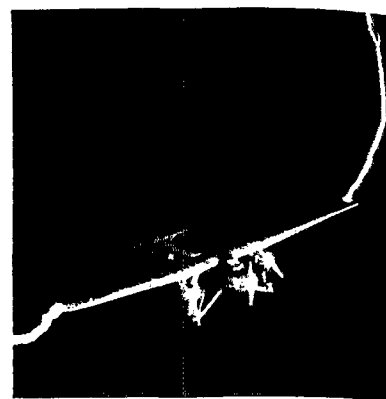
TESTS to determine the effect of lightning on airplanes and to provide greater protection from electrical hazards in flying are being conducted at the outdoor high-voltage laboratory of the Ohio Insulator Company at Barberton, Ohio, under the direction of A. O. Austin, chief engineer of the company and consulting engineer of the Ohio Brass Company, with the cooperation of H. H. Windsor, Jr., editor of *Popular Mechanics*.

Planes of various types, set up in such a way that true flying conditions are almost exactly duplicated, as well as model ships, various wing sections and other parts and motors, are being subjected to powerful bolts of artificial lightning and to induced charges at the plant, which is the highest powered outdoor laboratory of its kind in the world.

The research is the outgrowth of recent reports of ships struck by lightning but regarding which no definite information could be obtained. To answer the many questions that arose in this connection and to work out

means for preventing accidents to ships flying through electrical storms, the equipment of the Ohio Insulator Company's high voltage laboratories was made available and the first lightning tests ever conducted on full rigged airplanes on so large a scale were started. It was at this interesting laboratory that the famous tests were made on balloons and other lighter-than-air craft at the suggestion of Ward T. Van Orman, internationally known balloonist. As a result of these experiments, a shielding and other means for greatly reducing the hazards to the craft and for preventing the death or injury of persons in balloon baskets were developed.

Using the most accurate instruments known to science and playing high voltages upon planes with motors running and with gasoline tanks filled, engineers under the guidance of Mr. Austin are attempting to answer many of the perplexing questions that have arisen in connection with the effects of lightning upon airplanes. As the investigators proceed, synchronized



Model plane being struck by artificial lightning of high voltage. As a result of tests already performed, engineers believe that means can be found for more thorough protection of planes during electrical storms.

cameras, timed to record the lightning flashes to the millionth of a second, record by photographs important phases of the work for further reference and study.

The engineers hope to discover what is the danger of shock in case lightning strikes a ship. They are exploring the fire hazard. Will the insulation of the ignition system or of other parts of a plane break down? In what way do the hot gases from the motors effect the path of lightning near the plane? Another series of tests concerns the problem of induced voltages due to the collapse of a strong electrostatic field resulting from a discharge of lightning which is near, but does not actually strike a plane. Other tests are directed toward providing greater protection for passengers, pilots and ships in case of contact with lightning.

Five N. S. C. Sections To Hold Contests

STARTING January 1 and ending June 30, 1929, safety contests will be held among members of the following five sections of the National Safety Council: Metals, Paper and Pulp, Petroleum, and Public Utilities. Rules for the contests have been compiled and are being sent to members of these sections.

In the Metals Section the 1929 contest was confined to members actually engaged in the manufacture of steel. The 1930 contest will be expanded to include foundries, plants manufacturing from billets and slabs, structural steel fabricators, machine shops producing heavy duty equipment, etc.

During 1929 nearly 600 plants or other industrial units were enrolled in the sectional contests.



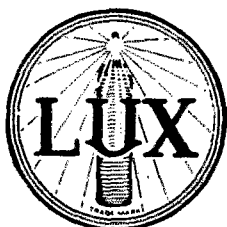
Looking down on the test field of the "lightning bolt factory" at Barberton, Ohio, where the Ohio Insulator Company is making tests to determine the effect of lightning on airplanes. In the foreground is a huge transformer, one of the largest ever constructed.

Control

for Dip Tank Fires



*Lux kills fire as a blanket would
—by smothering it under a cloud
of harmless gas.*



*Listed and Labeled by the
Underwriters' Laboratories.*

Fire in a dip tank not only will stop production but also may endanger the entire plant. And even a small fire, in spills around the tank, can do much damage to parts that have been dipped.

The LUX Extinguisher will control fires in dip tanks in 30 seconds or less. It smothers fire—in lacquer, paint or varnish—with a penetrating cloud of carbon dioxide gas.

LUX controls fire quickly and harmlessly. For LUX gas is bone dry, non-corrosive and clean.

There is no water damage or loss from chemicals when LUX is used. After a fire, LUX gas leaves the content of a dip tank unpolluted and undiluted—in the same condition as it was before.

Over 14,000 LUX Extinguishers are protecting extra-hazardous risks to-day. In your plant they will provide both harmless and quick protection from fire. Write for complete information today.

Walter Kidde & Company, Inc.
140 Cedar Street
New York

LUX FIRE EXTINGUISHING EQUIPMENT

When writing advertisers, please mention NATIONAL SAFETY NEWS

Highway Lighting Increases Pedestrian Safety

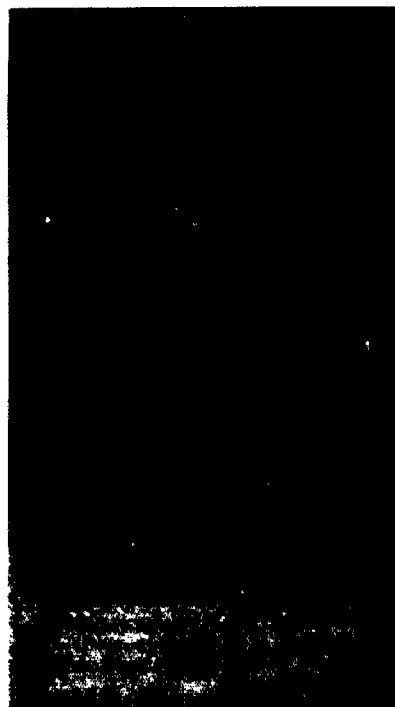
PEDESTRIANS, unless clad in white, are almost invisible to motorists upon unlighted roads, even with automobile headlights playing full upon them. The comparative visibility of pedestrians under varying conditions was determined by a series of after-dark tests by street-lighting specialists of the General Electric Company.

These experiments were conducted on a motor highway near Schenectady, N. Y.—two of them with all highway lights extinguished. In the first, a man with dark clothes stood about 100 feet in front of an automobile with bright headlights. The man could not be seen from the car, and in the ordinary course of events he would not be discovered by the motorist until the latter was so close to him that only a sudden stop would prevent him from being struck, unless he himself got out of the way in ample time.

In the second experiment a man wearing light-colored clothes and holding a white handkerchief stood at the same distance. The man's figure could be made out in plenty of time for the automobilist to avoid him, and



Man in gray clothes 100 feet from camera and automobile (high headlights and no street lights) is partly visible.



With high headlights and no street lights a man in dark clothes 100 feet away is barely visible to a motorist.



With low headlights and street lights a man in dark clothes is clearly visible 100 feet from the automobile and camera.

the white handkerchief was particularly easy to pick out.

In the third experiment the highway lights were turned on, and the pedestrian, wearing dark clothes, was revealed in a strong silhouette against the glow of lights.

Human Slips Cause Most Plant Accidents

"BUTTER fingers" and slippery feet are the chief causes of accidents in industrial plants, it is disclosed by an investigation just completed under the direction of Edward O. Allard, manager of the Safety Engineering and Inspection Department of the American Surety Company and its affiliated company, the New York Casualty Co.

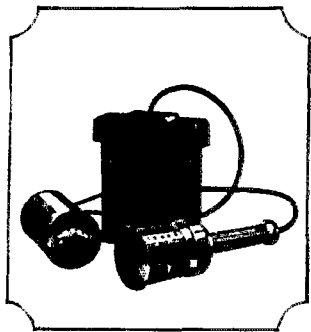
A check of more than 7,700 accidents, both fatal and otherwise, occurring in factories and industrial works from non-mechanical causes showed that the largest number attributed to a single cause—33.5 per cent of the total—were the result of manual handling of materials. Next in importance, it was found, were falls resulting from carelessness or other cause.

Glassware plants recorded the largest percentage of accidents due to the manual handling of materials—54 per cent—and machine shops came second with 46 per cent. In paper and printing plants, taken jointly, 39 per cent of the accidents in the non-mechanical category were the outcome of slips while handling objects and materials.

More accidents from persons falling occurred in woolen, cotton and silk mills than in establishments carrying on heavier forms of manufacturing. In some cases, workers fell against looms, beaters and other moving machinery.

"Altogether," said Mr. Allard, "nearly 11,000 fatal and non-fatal cases were analyzed, and it was found that more than twice as many accidents were due to non-mechanical causes as were chargeable to machinery in operation, the former total being more than 7,700 as against less than 3,200.

"These figures emphasize graphically the importance of the human factor in the situation. Far-sighted manufacturers have installed guards on moving belts and machinery, and have safeguarded other points of hazard, because accident prevention is good business practice from every standpoint, yet it is evident that employees continue to suffer injuries, many of which are fatal, because they do not exercise sufficient care in performing such ordinary actions as walking and carrying."



Instant Readings Help Prevent Accidents



IMMEDIATE appraisal of the presence of flammable gases. Warning, if they exist in unsafe quantities. The Union Carbide Company—UCC—Combustible Gas Indicator is applicable to a wide range of flammable gases and vapors and determines their percentages accurately. Explosive mixtures are clearly indicated.

Adapted to general industrial requirements from the Methane Indicating Detector developed by Union Carbide and Carbon Research Laboratories and approved by the U. S. Bureau of Mines—the UCC Combustible Gas Indicator fills a need of long standing, where the evolution of combustible gases is an attendant feature of production processes.

Dependable, portable, self-contained and easy to use, this device insures safety and facilitates work.

Descriptive bulletin on request

Distributed by

UNION CARBIDE SALES COMPANY

Unit of Union Carbide and Carbon Corporation

NEW YORK

CHICAGO

SAN FRANCISCO

and

BULLARD-DAVIS, Inc.

NEW YORK

SAN FRANCISCO, CAL.

Production Suffers When Safety Lags

By HOWARD A. SHEETS
Safety Engineer, California Casualty
Indemnity Exchange

The employer who is "too busy" to bother with safety may find himself confronted with rising costs

EVERY few years, industrial accidents are compiled according to the type of industry and the losses are used in the promulgation of insurance rates. The employer who is thinking of production without any consideration for safety, often finds that the compensation insurance rates for his plant have increased.

He is the first one to yell his head off about the high cost of insurance which is eating into his profits. He asks how anyone expects him to remain in business, with competition between his plant and rival concerns very keen and every nickel being a big factor in the competitive bids of a particular job.

He also states that the accident experience of his plant has been very good and the increase in rates is entirely unwarranted. In nine cases out of ten this last statement is entirely wrong and it is the high sign for the safety engineer "to give him the works," by showing him his past experience in figures containing the accident frequency and severity. When confronted with these facts he will calm down and admit that he did not realize that the accidents in his plant have been so frequent and costly. He usually says, "We have been very busy and I have been watching the production so closely to see that all orders are out on time, that I haven't been able to attend to accident prevention."

This last statement by the employer is the signal to show him that safety should go hand in hand with production.

For example, suppose a large plant is operating two shifts at breakneck speed due to a sudden boom in the business. Safety takes a back seat and many minor accidents are occurring; each one a potential severe injury. Finally the crash comes, a man is killed when a crane sling holding a heavy casting

suddenly breaks and the casting falls and hits the man on the head.

Now at this point think of the cost to production which could have been eliminated if the employer had given safety some thought and had the cable sling inspected regularly. In the first place, a man has been killed. Other employees stop their work to render whatever assistance is necessary. Some employees stop to discuss the accident. The morale of the men has been affected by this accident.

At a later date the dependents of the deceased, and the fellow workers who witnessed the accident must attend the coroner's inquest and the Industrial Accident Commission's hearing. This, of course, means loss of production to the employer.

If it can be shown that the accident was due to the serious and wilful misconduct of the employer, the dependents of the deceased can collect heavy damages from the employer.

Then at a later date a heavier blow is dealt on production when the insurance rate for this concern increases, due to this heavy loss which has been paid by the insurance carrier.

Many times concerns have a lapse of several months in the holding of safety committee meetings which ordinarily should be held each month. The employer gives an alibi saying that he has been too busy with production to stop long enough to conduct a safety meeting.

Safety meetings should be held regularly, and the committee should be especially vigilant about the plant when production has increased, as this is the zero hour for high accident frequency and severity.

Crossing Watchman Awarded Hero Medal

The Carnegie Bronze Medal, donated by the Carnegie Hero Fund Committee, has been awarded to Albert Sutherland, a crossing flagman for the Chicago, Rock Island & Pacific Railroad at Blue Island, Ill., according to an announcement by the rail-

road. The medal was awarded for Sutherland's heroic act in saving the life of a seven-year old girl at his crossing on August 22, 1928. On that date he was protecting the crossing on the approach of an express train and automobiles were waiting on both sides of the track for the train to pass. A woman and an unidentified girl were also standing on the sidewalk. Suddenly the child started to run across the tracks. Sutherland saw the situation, dropped his stop sign, and leaping in front of the train, saved the life of the child at the risk of his own.

Mr. Sutherland, who is 67 years old, has been a crossing flagman for ten years. More than a year ago he is reported to have endangered his life to save a woman at this crossing.

Dummy Shows Hazards of Blasting Caps



WHAT a blasting cap did to the artificial hand shown in the above illustration would be duplicated if the cap were held in a human hand. This demonstration of the destructiveness of blasting caps was staged at a labor day celebration held near Bisbee, Ariz. The outing was sponsored by the Warren District Labor Day Club, assisted by J. M. Harrington of the U. S. Bureau of Mines, Berkeley, Cal.

The hand was made of plaster of paris with wire reinforcement and enclosed in a stout rubber glove. It was attached to a dummy representing a twelve-year old boy. A No. 6 cap was placed between the thumb and first two fingers and exploded. About 8,000 people saw the demonstration in the park and many others saw the damaged dummy and pictures which were placed on exhibition.

TELARM

"THE WATCHMAN THAT NEVER SLEEPS"

A Vital Necessity Wherever Fire Hazard and Temperature Control Are a Problem

What It Is—Telarm is an automatic temperature warning device that sounds an alarm whenever temperature goes either above or below a predetermined point.

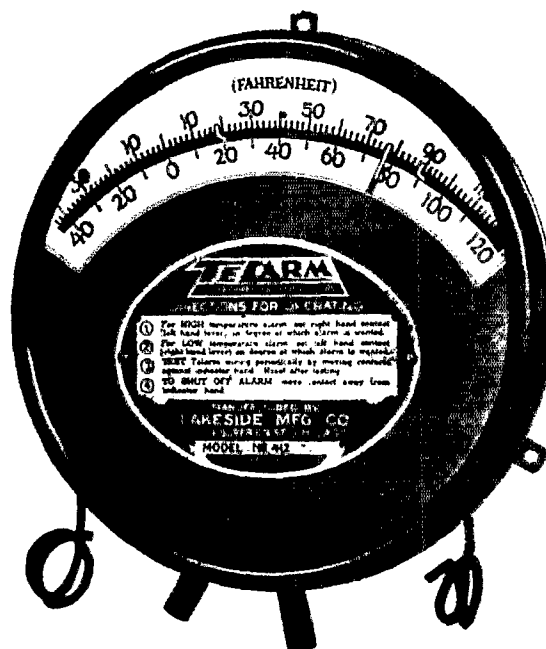
How It Operates—Telarm may be adjusted to function at any desired degree of temperature between -40 and $+120$ degrees F. by setting a movable contact point on the dial. When the indicator hand reaches this contact it closes an electric circuit, sounding the gong. Warning is thus given that temperature is abnormal in the vicinity of the detector. *Investigate at once* it proclaims, *before trouble starts!*

Why You Need Telarm

Telarm is an effective automatic fire alarm, with the added advantage that it warns of *impending or incipient* fires. It may be installed in remote or inaccessible parts of your plant and adjusted to operate when temperature goes as little as two degrees above normal. Therefore, should overheating occur, it will warn in *advance* of fire outbreak,—in time to prevent serious losses.

Telarm frequently *anticipates* sprinkler system action and thereby prevents water damage. Telarm will also warn against the danger of freezing sprinkler and plumbing systems.

Maintenance of hygienic workroom temperature is always difficult. If too low employees' health is affected and productive efficiency decreased. If too high the same is true with additional losses from wasted



fuel. Telarm helps you maintain correct workroom temperatures in either case, permitting healthier, more efficient working conditions and a saving of costly fuel.

Extremely Low Cost

Telarm may be installed throughout your plant at surprisingly low cost. Location annunciators may be used when needed. Its usefulness and the economies it effects are so great that it is one of the best investments in plant protection you can make.

There are many other ways in which Telarm can serve you. If you have temperature control problems, it will pay you to investigate. The coupon below will bring you complete details without obligation.

The Lakeside Manufacturing Co.

Largest Exclusive Manufacturers of Dial Type Thermometers
440 W. Superior Street, Chicago

LAKESIDE ELECTRIC COMPANY,
Dept. A., 440 W. Superior Street, Chicago
Gentlemen—Please send me complete information as to how Telarm
can be of service to me.

Name
Address
Business

NEW PUBLICATIONS
for the SAFETY MAN

COMPILED BY LIBRARY NATIONAL SAFETY COUNCIL

If further information is desired concerning any of the entries on this page,
the Librarian will be pleased to assist inquirers.

POSTURE AND HYGIENE OF THE FEET

Lewin, Philip, M.D., *Posture and Hygiene of the Feet*. A booklet of the National Health Series published by Funk & Wagnalls Company, 354-360 Fourth Avenue, New York City. Flexible fabricoid, price per copy, 30c, postpaid, 35c. Five or more volumes, 30c each postpaid.

FOR such a small volume, "Posture and Hygiene of the Feet" covers a surprisingly large amount of informational material. Chapter headings are "The A-B-C of Foot Hygiene," "Proper Care of the Feet," "Flatfoot and Its Correction," "Disturbances of the Metatarsal Arch," "Ankle Sprains and Other Injuries." In addition to this general grouping, there are other topics covered, concerning fallen arch, arch supports, sprained ankles, and including the most common foot troubles, such as corns, callouses, bunions, ingrown toenails, etc., and choosing the right shoes, hosiery and garters.

Since foot troubles are so important in industry, this little volume should find its way into the libraries of industrial physicians, nurses, safety engineers, and plant foremen.

Parents will find the booklet a splendid guide in noting tendencies in their children which might later develop into serious foot troubles for which surgery may be the only successful procedure.

Well-chosen illustrations and diagrams help to emphasize points in the text.—C. O. Sappington, M. D.

THE MEANING OF DISEASE

White, William A., M.D., *The Meaning of Disease*. Published by The Williams & Wilkins Company, Baltimore, Md., 1927. Price, \$3.00.

THIS book is an inquiry into the field of medical philosophy and has been written because of the tendency to extreme specialization in medicine.

In substance, the author has endeavored to shed some light on the problem of disease by drawing on the various fields of physics, chemistry, biology, psychology, sociology and philology.

In order to properly proceed with a correlation of these fields he found it necessary to express the conclusions of these several sciences in terms of a common component, and used the concept of energy in this relationship.

He succeeded in establishing a definite association between physical energy and the phenomena of the so-called "psyche." In common phraseology, this means that the paper-weight on the desk is not a "thing," but rather it is "something happening"; and this because all matter is composed of universes of revolving electrons in a constant exchange of energy values with the surroundings.

As the author develops his thesis, he shows that the value of such a unifying concept as energy is, lies in its capacity for bringing together diverse facts under a common principle and simplifying their consideration.

It is the final conclusion that disease, looked at from any angle whether it is thought to be a failure of adaptation or

adjustment to the environment or a failure to measure up to internal standards of conduct, or whether it represents an inadequate integration of the organism, or an inadequate integration of the individual social unit, it presents itself as an inadequacy of some sort. This inadequacy may be organic inadequacy, related to the mind, or of a social type. Energy has been stepped down by disease to a lower tension, to a lower level of efficiency, and in the last analysis it must mean that "disease is co-terminous with the degradation of energy."—C. O. Sappington, M. D.

OXY-ACETYLENE WELDERS HANDBOOK

Hendricks, M. S., *Oxy-Acetylene Welder's Handbook*. Published by the Acetylene Journal Publishing Co., 608 S. Dearborn St., Chicago, Ill. 208 p., illus. Price, \$3.00.

A WORKING manual of instructions for oxy-acetylene welders which covers the fundamentals of the work in a clear and helpful manner. The preliminary discussions of apparatus and materials used in welding set forth the hazards involved in handling them and outline the generally accepted recommendations for the prevention of accidents.

The important operating factors involved in welding are discussed principally from the standpoint of welding on steel because steel is the metal which is most commonly welded. However, the book is not lacking in complete information regarding the correct technique for welding other common metals, such as cast iron, aluminum, copper, brass, bronze, nickel, monel metal, and alloy steels. A particularly interesting feature is the treatment of such subjects as the training of operators and the inspection and testing of welds. These subjects are included to make the volume a useful guide to welding supervisors and instructors, and at the same time present the facts regarding welding to the beginner in such a way as to encourage him to become his own supervisor and critic.—J. I. Banash.

BOOKS AND PAMPHLETS

Mines and Mining:

Safety as affected by supervision and discipline. Published by U. S. Bureau of Mines, Washington, D. C., 1929. 6 p. Free. (Circular No. 6198.)

Recommendations of the Bureau of Mines on certain 9 questions of mine safety. Published by U. S. Bureau of Mines, Washington, D. C., 1929. 18 p. Free. (Circular No. 6198.)

PERIODICAL ARTICLES

Accident Causes:

New York Industrial Commission. *Causes of Accidents*. In New York Industrial Commission, *Industrial Bulletin*, November, 1929, p. 35-37.

Conveyors:

Keefe, W. D., *Accident hazards from the use of conveyors about pits, quarries and plants*. In *Pit and Quarry*, November 20, 1929, p. 71-72, 78.

Dentistry:

Pettibone, E. L., *Industrial dentistry helps keep employees well*. In *Dental Survey*, December, 1929, p. 19-21.

Electrical Equipment:

Merker, J. M., *Protective devices and their use in generating and substations*. In Bureau of Safety, *Safety Bulletin*, November, 1929, p. 7-8.

Wright, W. B., *Protection of the public from electric hazards*. In Bureau of Safety, *Safety Bulletin*, November, 1929, p. 3-5.

Eye Protection:

Autocar Company outlaws eye injuries. Intensive campaign started January, 1929, results in 97 per cent cut in injured optics. In *Safety Engineering*, November, 1929, p. 231.

Fire Prevention and Protection:

Fire prevention and protection as applied to hospitals. (Continued from October issue.) In *Safety Engineering*, November, 1929, p. 240-246.

Gases:

Yeaw, J., *Explosive limits of industrial gases*. In *Gas Age-Record*, December 7, 1929, p. 825-828.

Handling Materials:

Unloading poles safely. In Bureau of Safety, *Safety Bulletin*, November, 1929, p. 9-10.

Mines and Mining:

Glaeser, O. A., *Safe Practices at United Verde*. In *Explosives Engineer*, December, 1929, p. 468-469.

Wilcox, D. D., *Which comes first—Safety or tonnage?* In *Explosives Engineer*, December, 1929, p. 449-451.

Occupational Diseases:

Skin irritation among workmen with cement and concrete. In *Rock Products*, November 23, 1929, p. 99.

Punch Presses:

Saving digits and dollars. In *Travelers Standard*, December, 1929, p. 254-256.

Safety Campaigns:

Rice, L. R., *Nazareth Cement Company conducts successful safety campaign*. In *Rock Products*, November 23, 1929, p. 96-97.

Soldering:

Carlson, A. L., and others. *Safe methods for soldering*. In Bureau of Safety, *Safety Bulletin*, November, 1929, p. 14-15.

Ventilation and Exhaust Systems:

Hayes, D. F., *Ventilating the paint shop*. Ventilating system in the new paint shop of the Pittsburgh Railways Co., improves working conditions and reduces fire hazards. In *Electric Traction*, November, 1929, p. 589-590.

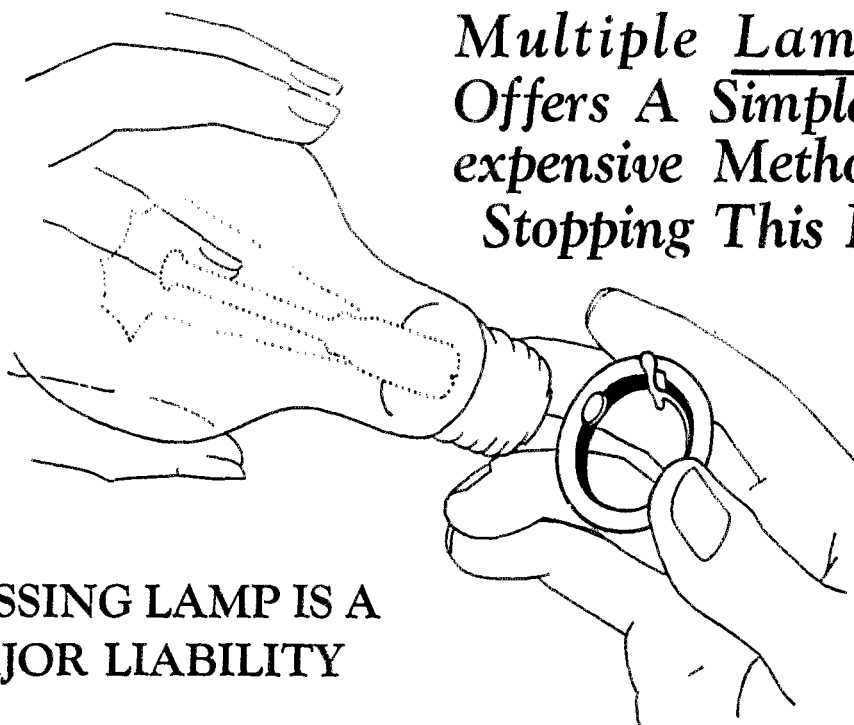
"Shop Safety" in Spanish

"SEGURIDAD en el Taller" is the title of the National Safety Council's well-known booklet, "Shop Safety," translated into Spanish. The Spanish edition of this popular booklet was made at the request of a Mexican member of the Council who supervised the work of translation.

The usefulness of this booklet is not limited to industries in Spanish-speaking countries. Many companies in the United States employ large numbers of Mexican workers and a safety textbook in Spanish is helpful in educating them to avoid common hazards.

ARE YOUR LAMPS BEING STOLEN?

*Multiple Lamplok
Offers A Simple, In-
expensive Method of
Stopping This Loss*

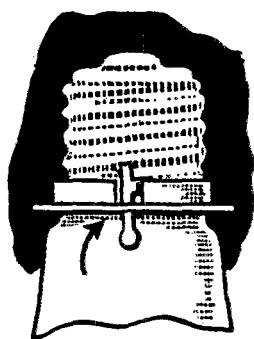


**A MISSING LAMP IS A
MAJOR LIABILITY**

*Multiple Lamplok Locks Lamp Securely
In Socket.*

*Lamp Is Unlocked By Special Tool With-
out Breakage Of Glass.*

*Purpose Of Lamplok Is Economy And
Accident Prevention.*



*Lamplok shown above
is a fixture that will
outlast 15 lamps.*

*"From Lamp to Lamp
From Year to Year."*

MULTIPLE SELLING CORPORATION

354 Madison Avenue, New York, N. Y.

Send this coupon today and secure immediate protection against the lamp thief.

**MULTIPLE SELLING CORP.,
354 Madison Ave., New York City**

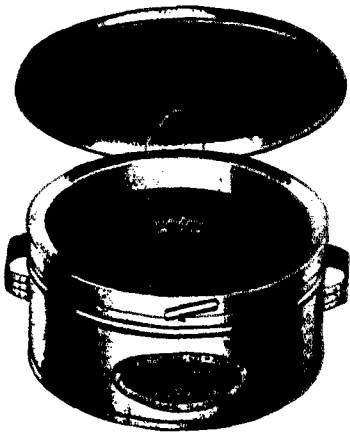
Gentlemen:

☐ Please send us.....standard packages (100) Multiple Lamploks at \$15 per hundred.

Name

Address

Bench wash cans



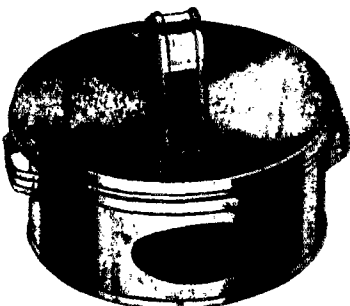
The Protectoseal Bench Can is unusually handy for bench work or machine pedestals. When cleansing small parts it is only necessary to lay them on the screen disc and push down. Cleaning fluid percolates through the screen's small perforations, while several up and down movements cleanse the parts thoroughly.

When moistening swabs it is only necessary to press against the screen disc—sufficient liquid enters through the screen perforations to complete the operation.

Protectoseal Bench Cans greatly lessen the danger of handling hazardous liquids. In case of ignition above screen, the fire goes out as soon as the moisture is burned—fire under the screen is extinguished when oxygen is consumed. Thrown over the can, the hinged cover will immediately extinguish any type of fire.

There is no waste with a Protectoseal—the spring action controls all operations.

Write for complete price list.



THE PROTECTOSEAL CO.
226 No. Sheldon St. Chicago

Switzerland Reports Industrial Accident Experience

AMERICAN safety engineers, absorbed in their own accident problems, are apt to overlook the activities of foreign countries in accident prevention work. The Swiss National Accident Insurance Fund has recently published a statistical report (summarized in the August, 1929, *International Labour Review*), for the period 1923 to 1927, which is a good sample of such activities. Although the figures presented cannot be accurately compared with our own in all cases, they are nevertheless significant.

In Switzerland the compensation law provides that 80 per cent of the insured person's earnings is payable from the third day after the accident. Compensable accidents, on this basis, rose steadily from 76,842 in 1923 to 94,200 in 1927. Some of our state records show a similar upward tendency in late years, though Wisconsin and Massachusetts, for example, have reported about the same number of compensable cases since 1923.

The proportion of serious accidents causing death or permanent partial disability in Switzerland has remained fairly constant throughout the period. They find that the frequency rate of these accidents (number of accidents per 100 full time workers) has declined somewhat, to offset a gain in temporary disability accidents, so that the frequency rate for all accidents shows little change between 1923 and 1928.

The average duration of disability per accident has ranged steadily downward from 17.1 in 1923 to 14.8 days in 1927, due, in part, to stricter supervision by the National Fund. The severity rate, which is computed on the basis of the number of working days lost per 100 full time workers, has fluctuated between 14.3 and 15.6, with only a slight upward tendency.

The predisposition of some employees to accidental injuries has been well established by the National Fund. A research covering 1923-1927 showed that 3,097 injured people had 10 or more accidents each. It was found that one-third of these people were unskilled workers and laborers; the rest were distributed in proportion to the risk involved in the occupations in which they engaged. Furthermore, for a person who suffers an accident in a given year, the risk of another accident the following year is 50 per cent higher than for the average insured person.

The report presents figures to show that, although accidents may be more numerous among the younger employees, they are not as serious as among the older men. Permanent partial disability injuries number only 2.3 per hundred accidents in the age group under 19 years, but for ages between 45 and 49, the number doubled; and tripled for 60 to 64 year old employees. The distribution of fatal accidents, however, shows that only 6 per cent occur to employees under 19 years of age and 19 per cent to those between 50 and 59 years of age. Fatal injuries to employees in groups between these ages represent about 22 per cent. Fatalities are therefore quite evenly distributed among employees of all ages, whereas liability to permanent partial disability increases with age.

The National Fund has classified industrial accidents on the basis of a "manner of occurrence" classification which is widely used by our own states. They, too, find that falls of persons, falling and dropping materials, handling tools, and the operation of machinery, are outstanding causes of accidents. The results of their investigations are shown in the table.

Industrial Accidents in Switzerland, by Manner of Occurrence, 1923-27

Cause	Percentage of All Accidents	Percentage of All Days Lost
Prime Movers and Working Machinery.....	11.8	19.3
Falls of Persons	11.9	22.8
Collapse, Fall and Breaking of Objects.....	11.3	17.7
Lifting and Moving Loads by Hand.....	24.1	12.8
Tools, Handling Objects.....	18.9	6.9
Mechanical Means of Transport.....	3.3	4.7
Total for Six Causes.....	81.3	84.2

When writing advertisers, please mention NATIONAL SAFETY NEWS

Since this table includes many industries which do not use machinery, the percentage of all accidents (11.8) is indicated to be less than half the percentage for industries in which machinery is widely used. Metal working establishments are shown to have had 22.7 per cent of all accidents due to machinery; rubber, paper and leather establishments, 28.1, and carpenter and cabinet work, 40.8. It is estimated that 20 per cent of the cost of all compensation is paid for machinery accidents.

Accident prevention work has been actively promoted by the National Fund in an effort to lower the cost of compensation. Safety devices developed by this organization for use with punch presses, drop hammers, and the like, helped to reduce the cost of accidents in establishments using this type of machine from 16.7 per 1,000 francs of wages insured in 1923 to 9.9 per thousand in 1927.

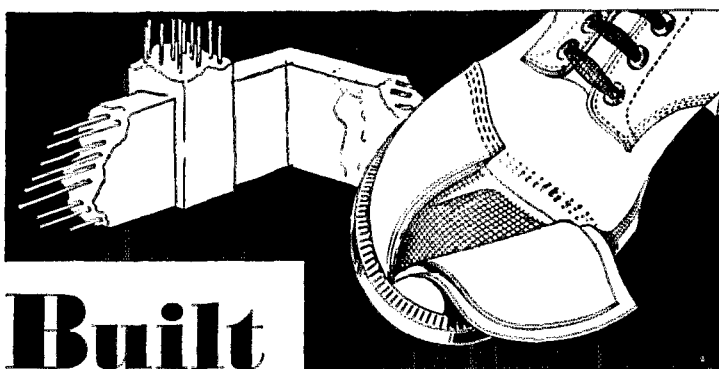
The use of goggles has reduced the number of eye injuries due to flying particles from grinding machines from 2,406 in 1919 to 220 in 1927. Efforts to improve working conditions in the chemical industry have resulted in a sharp reduction in accidents due to hot, poisonous and explosive substances. Likewise, accident experience in woodworking establishments has become increasingly favorable in spite of higher production schedules.

Work Two Years Without a Reportable Injury

ONE of the outstanding safety records of the Atlantic Coast Line Railroad is that made by the Tampa, Fla., shop plant, where approximately five hundred men are employed. No three-day reportable injuries have been suffered by employees there since October, 1927, during which period force has worked 2,715,769 man hours.

Since January 1927, James Grant has been shop superintendent in direct charge and following his promotion to superintendent of motive power in September, 1929, W. C. Stephenson succeeded him, and is carrying on the same splendid work.

The Atlantic Coast Line mechanical department has brought about a reduction in personal accidents during the past few years that indicates the active efforts of supervisory forces. On entire system in 1923 there were 833 reportable cases; 606 in 1924; for 1925 a total of 552; for 1926 there were 357; for 1927 there were 191; for 1928 only 125, and for nine months of 1929 only 84.



Built like reinforced concrete - yet light as an ordinary shoe

The metal mesh reinforcement vulcanized in layers of strong "tarfelt" built into the toe of this shoe, between its full vamp and outer cap, makes it a safety shoe worthy of the name.

The extra fine quality uppers are of soft brown glove leather, securely fastened to the soles with brass nails. The sole leather counters are covered by an outside counter pocket, triple-stitched to the quarters. While strong and sturdily built, these splendid shoes are neither cumbersome nor "pluggy." They

are light in weight, which makes them comfortable to wear. They are built for safety and comfort.

Sold by responsible dealers in almost every industrial center. Names gladly furnished on request.



No. 290

ROBERTS, JOHNSON & RAND

Branch of International Shoe Co.

St. Louis



"STAR BRAND

SAFETY SHOES

ARE BETTER"

When writing advertisers, please mention NATIONAL SAFETY NEWS



For Safety Rely on Kleins

Line construction work is a man's job. Out on the sticks in all weathers, subject to continual danger is a job that calls for skill, courage and caution.

The Lineman can't afford to worry about his Climbing equipment. That is why public utility companies, the country over, standardize on, and equip their gangs with "Klein" tools.

"Since 1857" the name "Klein" has stood for the utmost quality in linemen tools. Safety Straps or Belts, Pliers, or Climbers, Lag Wrenches or Grips, Splicing Clamps or Tackles, there is only one quality good enough—the best, and that means Klein's.

A national campaign featuring Safety for Linemen is being conducted by Mathias Klein & Sons to assist in selling the idea of safety to Linemen.

The following pamphlets are available for free distribution by safety engineers and others interested in this subject. Take your choice.

- ☐ Safety for the Pole Climber
- ☐ Specifications on Linemen's Belts and Safety Straps
- ☐ The Safety Factor on Linemen's Leather Goods
- ☐ Pocket Tool Guide

Mathias KLEIN & Sons
3200 BELMONT AVE., CHICAGO

Announce Awards of Harriman Medals for 1928

AWARDS of the Harriman Memorial Medals for 1928 have been announced by the committee of awards. These medals are given each year by Mrs. E. H. Harriman to the individual railroad companies which, in the opinion of the committee, have made the greatest progress in promoting safety on their roads. Following are the awards:

The Harriman Gold Medal, for Group A, to the Union Pacific Railroad Company.

The Harriman Silver Medal, for Group B, to the Duluth Missabe & Northern Railway Company.

The Harriman Bronze Medal, for Group C, to the Texas Mexican Railway Company.

Certificates of honorable mention were also awarded as follows: Group A, Chesapeake & Ohio Railway Company; Group B, Gulf, Mobile & Northern Railroad Company; Group C, Indianapolis & Terre Haute Railway.

Group A includes those railroads of Class I which operated 10,000,000 or more locomotive miles during 1928. This group comprises 42 railroad companies and includes 81.3 per cent of the total locomotive miles covered by the entire three groups of the contest. Group B includes those railroads which operated from 1,000,000 to 10,000,000 locomotive miles in 1928. This group includes 71 railroad companies with 17.1 per cent of the total locomotive miles of all groups. Group C comprises those railroads of Class I which operated less than 1,000,000 locomotive miles in 1928. This group consists of 46 railroads with 1.6 per cent of the total locomotive miles.

The Committee of Award for 1928 was composed of the following members:

Arthur Williams, president of the American Museum of Safety, chairman; E. I. Lewis, chairman of the Interstate Commerce Commission; Charles M. Schwab, chairman of the Bethlehem Steel Corporation; Samuel O. Dunn, editor of *Railway Age*; F. D. Underwood, former president of the Erie Railroad and personal representative of Mrs. Harriman on the committee; Lew R. Palmer, trustee of the American Museum of Safety, secretary to the Committee of Award; A. A. Hopkins, director of the American Museum of Safety and an editor of

Scientific American, ex officio member.

In the past four years the Union Pacific has received the Harriman gold medal three times, it having been awarded to the Norfolk & Western Railroad for the year 1926. This is also the case with the Harriman silver medal, which has been awarded three times to the Duluth, Missabe & Northern during the past four years, it having been awarded to the Duluth & Iron Range for the year 1927.

The Texas Mexican also received the bronze medal for 1927. In awarding the medal to this railroad for 1928 the Committee of Award announced that this carrier is the first Class I railroad to have a perfect record for an entire year since the Harriman medal awards were revived in 1924 after having been suspended during the period of the World War. In other words, the Texas Mexican Railway Company, with 162 miles in the State of Texas, operated 399,000 locomotive miles and 1,240,000 passenger miles without a reportable injury of any kind during the year 1928. No passengers were killed or injured in any form of accident during the year 1928. No employees were killed or injured in any class of service. No one was killed or injured in any highway grade crossing accident or elsewhere.

In its analysis of returns for all Class I railroads the Committee of Award found that many roads showed very encouraging improvement in safety during the past year, and that the improvement, with respect to some of the lines, was remarkable. Of the 159 competing railroads in the three groups 121 operated throughout the entire year 1928 without a passenger fatality, carrying 140,634,000 passengers, with over 10,000,000,000 passenger miles.

In making the ratings which form the statistical basis of the awards the committee takes into account passenger casualties, employee casualties, and all other casualties to non-trespassers at grade crossings and elsewhere, reportable to the Interstate Commerce Commission. Each group of casualties is rated by being compared with some factor of operation, such as passenger miles, employee man-hours or locomotive miles, and the final rating is arrived at by a summation of these individual casualty ratings.

When writing advertisers, please mention NATIONAL SAFETY NEWS

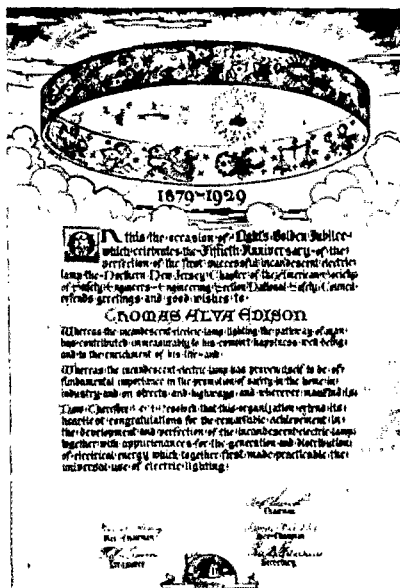
Gasoline Spills May Have Unpleasant Results

MOST oil drivers know that it is dangerous to work in clothing that has been soaked by a gasoline spill, and they realize that when gasoline is spilled on a garment, the wet clothing should be taken off as soon as possible and dry clothing put on.

However, other drivers do not know as much about this fuel, and some of them will probably be surprised to know that if you continue to wear a garment soaked in gasoline, you will not only have a very serious fire hazard, but there is also grave danger of the gasoline seriously burning the skin. Gasoline spilled on your hands will evaporate without harm, but if you spill it on clothed portions of the body—look out! If you don't change clothes, in a few hours you will feel as though you had been sitting on an anthill.

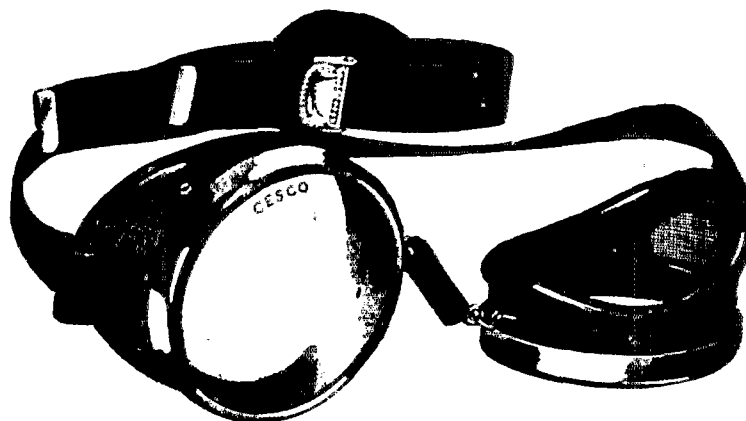
Even gasoline spilled on a seat cushion makes trouble if you sit on it.
—*The Toter.*

ASSE Chapter Presents Memorial to Edison



IN appreciation of Thomas A. Edison's services to mankind the Northern New Jersey Chapter of the ASSE—Engineering Section of the National Safety prepared the memorial shown in the above illustration. The original was engrossed in colors and framed in mahogany. The presentation was made by a delegation from the executive committee of the chapter on December 4 in Mr. Edison's office at his laboratory in West Orange.

IRONCLAD GOGGLES



THE PEER of Industrial Eye Protection

TRULY the latest word in goggle construction, the **Ironclad** embodies an array of features seldom found in one industrial goggle. It is the product of a firm who has devoted its entire business life to the manufacture of head and eye protection.

Ironclad goggle cups are made of a new material, strong, light and moisture proof. They are moulded and shaped to comfortably fit the contour of the face. The side screens are counterlocked, making them impossible to become loosened. The lenses are held in place and easily interchanged by means of a machined screw cap which fits directly onto the cups. The chain bridge and headbands are adjustable.

Ironclads are not "just another goggle" but raise themselves far above this class by improvements which are worth your while investigating. We will gladly send sample pairs or literature upon request.

Manufactured by

Chicago Eye Shield Co.

2300 Warren Avenue

Chicago, Ill.

When writing advertisers, please mention NATIONAL SAFETY NEWS

Get ALL the LIGHT you pay for

Regardless of what illumination costs, how much is it really worth to you? That is to say, what is the value of its use?

Clean Reflectors save light — dirty reflectors waste it.



—Makes overhead lamps easily accessible for cleaning reflectors and changing bulbs. No climbing or electrical hazards.

Get new 32-page Catalog free upon request. Handled by leading electrical jobbers.

THOMPSON
Safety Lowering
HANGER

The Thompson Electric Co.
1438 W. 9th St. Cleveland, Ohio, U.S.A.

**READY FOR
ANOTHER HARD
DAY'S WORK**

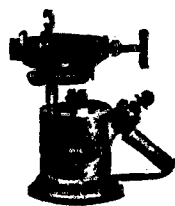


"THEY can't make the work too tough for a Wall Furnace," said Nick, as we took this picture. And that's what every one thinks who uses Wall Furnaces, for in

these modern furnaces are combined every feature of service with safety! Large tank, greater fuel capacity, wide, stable base, BRAZED bottom and connections, easily accessible—built for long life and operating economy! See your supply house!

P. WALL MFG. SUPPLY CO.
3126 PREBLE AVE., N. S., PITTSBURGH, PA.

DREADNAUGHT
Service BLOW TORCHES
with Safety



**Wall
Torches**

are another product with a reputation for durability. Special features guarantee utmost safety as well as highest operating efficiency. Write for catalog.



Asks Aid on the Perplexing Parking Problem

"WE have been asked to consider making a change in the parking limit in our congested district. The change proposed would limit parking to one-half hour where two-hour parking is now in effect. If you have any suggestions that will aid our committee in considering this problem, I would be glad to have them."

The member from whose letter this quotation was made had a problem not unlike the parking problems of many other cities. When parking difficulties arise, the first thought is often to make a drastic reduction in the parking limit. But such action may not be the solution. This was the reply:

"You are proposing quite a radical change in your parking time limits. Do you realize that half-hour parking will involve a much more serious job of supervision than two-hour parking? Do you now have any difficulty in getting your present parking regulations properly supervised and enforced?"

"With rigid enforcement the average parking time of vehicles falls well below the time limit. We have compiled information from four of our traffic surveys showing the average parking time for vehicles parked within certain time limits. The results are quite significant.

"The average time for 10,628 vehicles parked for 30 minutes or less was 19 minutes per vehicle; for 12,435 vehicles for 1 hour or less, 25 minutes; for 7,397 under 1½-hour parking, 29 minutes, and for 4,046 under two-hour parking, 33 minutes. For any given parking space the number of vehicles that can be accommodated can easily be calculated from these figures. The change from 2 hours to 1½ hours would increase the capacity thus calculated by 12.6 per cent; to one hour, 30 per cent; to one-half hour, 71.5 per cent.

"What percentage of increase do you need for accommodating all of the vehicles that require parking space in the area that you are considering? If it does not exceed 30 per cent at the present time, I strongly advise that you do not decrease your limit below one hour. If, however, you need to increase it as much as 70 per cent, one-half-hour parking would be required to do it.

"The foregoing, of course, assumes complete compliance with the present restriction and the same for the restriction to which you propose to change. If enforcement is the big problem, you will find it a lot easier to enforce 2 hour parking than one-

half-hour parking. In one city we found that strict enforcement of the existing regulations would increase the number of vehicles that could be accommodated in the same spaces, during the same periods of time for which the observations were taken, 65 per cent. In one street this increase would be 109 per cent.

"The real gist of all this is a warning to be sure that your real problem is one of reducing parking limits before you take steps in that direction. If it is a problem of enforcement, reducing the time limits will not help."

Designating Equipment in Sub-stations

(Continued from page 46)

case and blue in the other. This in itself gives an operator material assistance in selecting his H.T. controls in cases of emergency especially when they are intermingled with L.T. controls along a 40 or 50 foot board.

Such plates can be readily obtained from any firm manufacturing enamel ware at a cost approximating 15 cents per plate.

In ordering plates it is well to obtain seven or eight of each designation so each feeder may be distinctly marked from the switchboard control to the outdoor cable terminal.

A point often overlooked is that of tagging the rear of switchboard panels as well as the front. In many cases the test links are mounted on separate miniature panels on the back of the main panels and the work of a meter or relay inspector is greatly facilitated when he is able to select his panel without taking the time to count from one end or having a check made by the operator stationed out in front.

Nearly all modern installations of switching equipment provide for remote control of oil breakers. Under such conditions it is desirable to place a tag on both front and back of the breakers as well as on all disconnecting switches.

Tags may also be attached to feeder cables at strategic points by wiring the plates about the cable fireproofing as well as fastening them on the outdoor cable terminals.

A few photographs have been included with this article to give a clear idea of this method of feeder designation. The subject may appear to be of minor importance, yet anyone in the operating field will appreciate its significance and value not only as a means of facilitating operation in general but as an outstanding essential to safe practice

"Fortify for Fire Fighting"

THE FAMOUS PYRENE 1 QUART

PYRENE 1 GAL. PRESSURE TYPE

PYRENE 2 GAL. PUMP TYPE

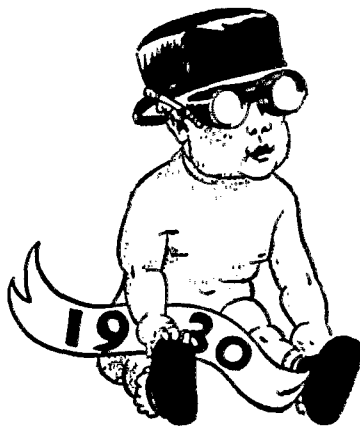
PHOMENE FOAM TYPE

Pyrene
KILLS FIRE
SAVES LIFE

Pyrene Manufacturing Company
NEWARK, NEW JERSEY
ATLANTA KANSAS CITY CHICAGO SAN FRANCISCO

A Fire Fighting Unit for Every Hazard

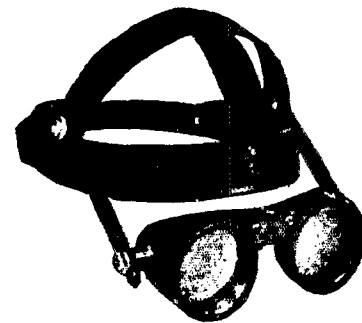
Make the New Year



SAFE ~ with HELMET GOGGLES

MULTIPLIED safety, cushion comfort and unusual convenience are embodied in the *advanced* Helmet Goggles for the welder, grinder or chipper. Can't be mislaid or lost like ordinary goggles. Fit like cap or hat. Shaped to fit the face. Light in weight. Non-shatterable and moist-proof.

Helmet Goggles save eyes, save time and save money. Use the coupon below for complete details.



Made in both Helmet type and Skeleton type. (Skeleton type shown above). For sale by leading Safety Appliance and Welding Supply dealers everywhere.

CARTER-LOCKARD CO., 950 S. Flower St., Los Angeles, Cal.

HELMET GOGGLES

Carter-Lockard Co., 950 So. Flower St.
Los Angeles, California
Gentlemen: Send me complete details.

Name _____

Address _____

For Grinding Service ☐ For Welding Service ☐

When writing advertisers, please mention NATIONAL SAFETY NEWS

A worker's chair is more than a place to sit

It can be a source of fatigue, and the fatigued body conscious employee cannot do justice to himself or his employer. Machine operators must be comfortably seated at just the right position in regard to their work and physical proportion.

A factory chair that just fits the work and the worker becomes an efficient aid to production and quickly repays the original outlay.

ROYAL "Seats of Production" CHAIRS

Let us send you a handbook on the relation of fatigue to posture and its effect upon production.

Royal Metal Mfg. Co.

1134 S. Michigan Blvd., Chicago
Largest Manufacturers of Factory
Chairs



Scientifically designed Royal "Seats of Production" are quickly adjustable for every requirement.

ADJUSTABLE
RANGES

17" to 23"
21" to 27"
25" to 31"
28" to 34"

PERSONALS

The following officers have been elected by the Northern New Jersey Chapter, ASSE—Engineering Section, National Safety Council, for the year 1930: Chairman—Max S. Henig, Ph.D., Essex County Vocational School, Irvington; First Vice-chairman—Samuel H. Libby, General Electric Company, Bloomfield; Second Vice-chairman—A. R. Lawrence, Compensation Rating and Inspection Bureau, Newark; Secretary-Treasurer—Fred M. Rosseland, manager, Newark Safety Council. Member of executive committee for two-year term—W. R. Smith, Public Service Production Company, Newark; E. A. Timm, Standard Oil Co. (N. J.), Bayonne; for one year term—S. F. Larchar, Thomas A. Edison, Inc., West Orange.

Ralph E. Motley, formerly director of plant personnel and employment for the Atlantic Refining Company, Philadelphia, Pa., has entered the export department of the company and is now stationed at Porto Alegre, Brazil.

Hawley S. Simpson, formerly traffic engineer for Essex County, N. J., has joined the staff of the American Electric Railway Association, New York City, as research engineer.

Saves Two Lives in One Day By Resuscitation

FOR saving two lives in one day by application of the prone pressure method of resuscitation, Charles W. Bannon, an employee of the Penn Central Light & Power Company at Lewistown, Pa., has been awarded the President's Medal and a bar to be attached to it by the National Safety Council. The two victims who had been overcome by smoke in a burning building, were restored to consciousness by Mr. Bannon's prompt and skillful treatment. The presentation was made at a company safety rally at which Harry D. Immel, director of the Bureau of Inspection of the Pennsylvania Department of Labor and Industry, was the principal speaker.



DUST COLLECTORS

Sand Blast Equipment and Protective
Devices

PANGBORN
CORPORATION
HAGERSTOWN, MARYLAND

Blast Furnaces Used to Be Hazardous

(Continued from page 21)

him to remain in its midst, the entire group is penalized. Each individual is responsible not only for himself but for everyone with whom he works.

At frequent intervals some person prominent in safety work is invited to the plant to give a talk on safety. This talk requires only fifteen to twenty minutes, and is given at three locations in the plant in order to reach all men employed. During this time operations are shut down so there may be no excuse for non-attendance. Having an outsider make the talk is very beneficial, since the men become accustomed to hearing members of their own organization talk. Also, the psychological effect is much the same as a "pep" meeting before a football game.

A committee composed of two department heads, the personnel of which is changed every second month, visits the sick or injured. This committee carries a supply of cigarettes, cigars, gum, etc., and their coming is anticipated with favor by the unfortunate man. Frequently many good suggestions are received from an injured man after he has had time to consider his accident.

At the safety committee meeting, following the accident which broke the record, the chairman of the meeting asked what factor or factors contributed the most toward this record. Each and every member had an answer at the end of his tongue. Every thought was recorded, and a tabulation kept to see what items stood out in the men's minds. They are listed below, perhaps not in the order of their true importance, but showing what thoughts were uppermost in the minds of this particular group of men. Cooperation and organization were virtually spoken of by all, and therefore lead this list.

1. Cooperation and organization in doing the job.
2. Education in proper manner of doing the work.
3. Better and more constant supervision of the work.
4. Better tools, equipment, or safety appliances.
5. Fear of a penalty on account of careless methods or infraction of safety rules.
6. More and better information on the occurrence of accidents.
7. Safety rallies and meetings.
8. Pride in the safety record, and the safety spirit engendered by the record.
9. Prompt action on suggestions and reports.

This is the story as told by the men who put the record across.

Up and At It!



"Gold Medal" SAFETY Platform Ladder

Any ladder takes a man up, but this ladder puts him safely AT the job. His freedom to work, without effort to balance, is sure to increase the speed and quality of his work.

The "Gold Medal" Line

Safety Extension
Trestles, Feather-
weight Stage "The
Underwriter," Step
Ladder, "Standard"
Extension Ladder,
Chicago Painters' Step
Ladder, Portable Tele-
scoping Tower and
many others.

Write for full
information]

Broad enclosed platform steady as a rock. Hardwood top forms handy tool rack. Rungs at rear. Aeroplane spruce, steel reinforced. Ten sizes.

(Listed by Underwriters' Laboratories)

THE PATENT SCAFFOLDING COMPANY

Chicago, 1550 Dayton St. Atlanta, 44 Haynes St., N.W. St. Louis, 6168 Barmore Ave.
Boston, 49 Ellery St. Philadelphia, 2835 Bridge St. San Francisco, 270 13th St.
Pittsburgh, 1254 Vookamp St. N.E. L. I. City, N. Y., 3821 Sherman St.

Gold Medal



Safe Ladders and Scaffolding for Every Purpose



WORKING TO WIN—THE SAFETY TROPHY

that's what gets the whole hearted co-operation of the men in accident prevention.



START THE NEW YEAR

with a spirited contest. Let them win a Trophy or Cup.

Write for Catalog. Original designs and samples submitted.



THE EMBLEM COM- MANDS

attention and respect due a Distinguished and Trained Safety Man.

We make Emblem Buttons for every Purpose.



Clarence J. Williams

Williams Jewelry & Mfg. Co.,

Display Room 416, Pittsfield Bldg.
55 East Washington St.,
Chicago, Ill.

When writing advertisers, please mention NATIONAL SAFETY NEWS

WHO'S? NEXT!



Act to-day- Protect gauge glasses this new way.....

Maybe you've never seen a gauge glass blow out. They do—frequently, too! Men near an unprotected gauge glass are in constant danger. It may shatter any moment! The Next Accident may happen right in your own plant, with costly damage to machinery, men, and to your prized safety record.

Install Kleervu Protectors on all gauge glasses, boilers, process tanks, etc., in the plant now. Simple to put on. Glass can be read from normal distance and angle. Inexpensive. Kleervus are now being installed everywhere by watchful plant owners who realize that they have heretofore neglected these constant danger points.

Write us today for information. Use coupon.

KLEERVU
"SNAP-ON" GAUGE GLASS
PROTECTORS

WRIGHT AUSTIN CO.,
311 W. WOODBRIDGE ST.,
DETROIT, MICHIGAN.
Please send details on Kleervu "Snap-on" Gauge
Glass Protectors.

Name.....
Address.....

President's Medal Awarded to 104 Persons in 1929

ONE hundred and four persons have been awarded The President's Medal during 1929 for saving life by the prone pressure method of resuscitation. In addition to these awards 14 certificates have been presented to those who rendered meritorious service by assisting in resuscitation but were ineligible for the medal.

The President's Medal is awarded by the National Safety Council for successful application of the Schaefer prone pressure method of resuscitation in cases of suspended respiration due to gas asphyxiation, electric shock, drowning, or any other accidental cause that may result in prolonged suspension of natural breathing.

Any person, ten years of age or older, is eligible for The President's Medal, except those qualifying for the Insull, McCarter or other awards for resuscitation. Each application for the medal is reviewed by the Medal Administration Committee of the National Safety Council.

With the medal each approved applicant receives a certificate, signed by the president of the National Safety Council, describing the accident and the service rendered. Additional certificates are awarded to those who, in the opinion of the committee, have rendered sufficient assistance in the resuscitation to merit such recognition.

Among those who have received the medal are many employees of public utility companies who performed resuscitation under circumstances which did not make them eligible for the Insull or McCarter medals. That these companies should be well represented in the roll of life savers is to be expected since training in resuscitation is universal in the industry. Other industries are well represented in the list, which also includes policemen, students, Boy Scouts and housewives. Five of the awards were to women.

Several persons have received bars to the first medal for additional lives saved. One medal was awarded posthumously. Frank Conditt, an employee of the Central Illinois Public Service Company, who saved a life in May, 1929, died before the award was made and the medal was presented to his widow.

Following are those who comprise

the National Safety Council's Honor Roll of Life Savers for 1929, arranged in the order in which the awards were made.

C. R. Doughty, Louisiana Oil Refining Corp., Shreveport, La.

Raymond A. Ferguson, Northern Indiana Power Co., Indianapolis, Ind.

Vernon R. Slater, Northern Indiana Power Co., Indianapolis, Ind.

Thomas R. Carney, U. S. Rubber Co., Boston, Mass.

John Appel, Standard Oil Co., of La., Baton Rouge, La.

J. I. Whitehead, Jr., Fall River Gas Works, Fall River, Mass.

Iola Williams, Northwestern Bell Telephone Co., Sioux Falls, S. D.

Raymond Lee Carey, Diamond State Telephone Co., Wilmington, Del.

Charles Harvey Wood, Diamond State Telephone Co., Wilmington, Del.

John Boutte, Gulf Refining Co., Port Arthur, Texas.

Charles Gartman, American Telephone & Telegraph Co., Birmingham, Ala.

John B. Andrews, Chicago, North Shore & Milwaukee Railroad, Highwood, Ill.

Thomas Donaldson, Dominion Coal Co., Glace Bay, N. S.

Charles A. McStravick, Police Officer, Boston, Mass.

Miss Mary Laughter, Student, Rockport, Texas.

Paul H. DeWalt, Business Man, Marion, Ind.

Leo A. Hartsell, Consumers Power Co., Jackson, Mich.

Fred J. Lockwood, New York Telephone Co., New York City.

James Wm. Brazier, New York Edison Co., New York City.

Albert J. Duane, New York Edison Co., New York City.

Peter Hunerfauth, New York Edison Co., New York City.

Joseph H. Hoffman, New York Edison Co., New York City.

Frederick A. Clausman, Jr., New York Edison Co., New York City.

Gerald Ackerson, New York Edison Co., New York City.

Michael T. McMahon, New York Edison Co., New York City.

Joseph F. Briody, New York Edison Co., New York City.

C. L. Engster, New York Edison Co., New York City.

Howard Meyers, New York Edison Co., New York City.

Vivian J. Culivan, Alabama Dry Dock & Shipbuilding Co., Mobile, Ala.

R. D. Webb, Roxana Petroleum Co., East Chicago, Ind.

Seba Cox, Consumers Power Co., Lansing, Mich.

Clarence D. Jones, Standard Steel Car Co., Hammond, Ind.

F. T. Chandler, Roxana Petroleum Corp., Wood River, Ill.

Harry Fourcoat, Hyatt Roller Bearing Co., Kearny, N. J.

Harley Smith, Student, Enid, Okla.

Orlo Cummings, Student, Corwallis, Ore.

B. L. Lossee, Indiana & Michigan Electric Co., Elkhart, Ind.

When writing advertisers, please mention NATIONAL SAFETY NEWS

Machine Guard Economy

EMPLY the handy man about your factory to make the best **SAFETY GUARDS** that it is possible to obtain at any price.

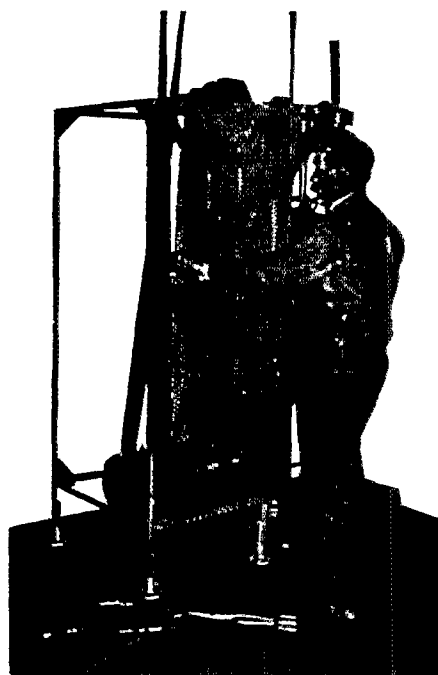
We can supply all the material in excellent form for easy assembling.

Perforated Angles and Bands for Frames.

Gussets to Make Rigid Corners.

Floor Posts and Sockets for Detachable Guards.

Perforated Sheets for Covering Fabric.



THE HARRINGTON & KING PERFORATING CO.

5645 Fillmore St., Chicago — 114 Liberty St., New York

Clean floors mean Safe floors

ONE small spot of grease upon a factory floor may cause a slip which might mean loss of a life or the maiming of a body. Possibility of such accidents is greatly lessened if floors are kept scrupulously clean. Moreover, clean floors are a most important factor in lessening carelessness among employees. Clean floors make for better work, less waste and increased production.

Hundreds of factory owners and foremen are solving their floor cleaning problems with the FINNELL SYSTEM of electric scrubbing, polishing. The FINNELL exerts from 35 to 60 pounds pressure on the brushes (depending upon the size of the machine). Clean water is provided for every square inch of floor space. The brushes dig down beneath even the most stubborn coating of oil and grime until every particle of dirt is routed.

The new FINNELL Vacuum Mopper absorbs water from the floor, leaving it practically dry. Does away with likelihood of accidents caused by slipping.

A FINNELL representative will be glad to make a survey of your floor space and recommend which of the eight FINNELL models would best serve your needs. Address FINNELL SYSTEM, INC., 1001 East Street, Elkhart, Indiana.

WAXES

POLISHES

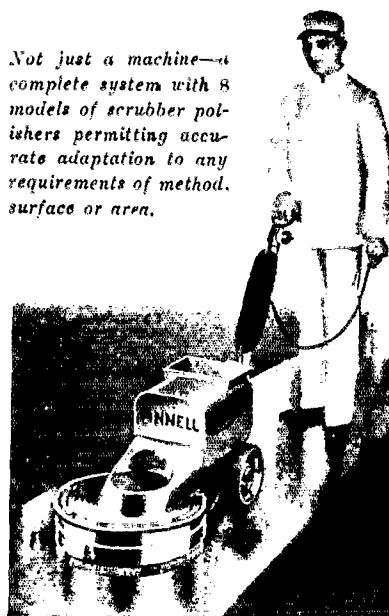
FINNELL

ELECTRIC FLOOR MACHINE

SCRUBS

SANDS

Not just a machine—a complete system with 8 models of scrubber polishers permitting accurate adaptation to any requirements of method, surface or area.



Split Your Office Workers in Half



Free Trial Offer! Try This Test for Factful Figures

TAKE any given number of your employees. Equip half of them with ANGLE STEEL Posture Chairs—the other half with ordinary office chairs.

Then check comparative results over a period of a few weeks: results in increased productivity, improved health, mental alertness and lessened errors. Prove the truth of our claims by FACTS.

This test involves no cost or obligation. And one of our trained seating experts will adjust each of our chairs to the individual worker.

ANGLE STEEL Posture Chairs are endorsed by physiologists, welfare authorities and industrial engineers. They not only correct bad posture—they prevent it! Compare them, as many others have done, with other posture chairs, as to:

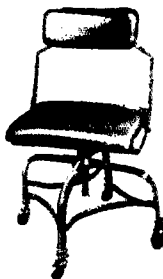
- 1—Easily adjustable features.
- 2—Approved practical design.
- 3—Compact space-saving size.
- 4—Sturdy, dependable construction.
- 5—Better leather and upholstery.
- 6—Caster size and quality.
- 7—Light weight.
- 8—Rounded-front-edge feature.
- 9—Wide variety of sizes and grades.
- 10—Extremely attractive prices.

Act now! Write us, or mail the coupon! Invest in permanence—productivity—profits!

No. 276 L.C.-P.V.R.

Revolving

Height Adjustment: 17 to 22 inches by hand wheel under seat. Seat: Rolled front, genuine leather over curled hair. Backward and forward sliding adjustment. Back Rest: Wing nut adjustment up and down, tilting to desired angle. Form fitting. Padded genuine leather. Finish: Seat and back rest, choice of green, black, brown, tan, red and blue. Steel Parts: Standard, olive green enamel or choice of mahogany brown (not grained) mahogany red (plain) and black. Casters: 2-inch diameter steel or rubber swivel type. Gliders optional.



We also make a complete line of
Angle and Sheet Steel Equipment
for Factory, Shop and Office
Ask for Catalog

★ MAIL THIS COUPON ★

ANGLE STEEL STOOL CO.
Plainwell, Michigan.

- ☐ Send Seating Expert.
☐ Mail Posture Chair Bulletin.
☐ Mail Catalog. "C-NSN"

Name.....

Address.....

City and State.....

Fred W. Allen, Policeman, Los Angeles, Cal.
Charles G. Hixson, Bell Telephone Co. of Pa., Latrobe, Pa.
Harry Stevenson, Indiana Bell Telephone Co., Greenwood, Ind.
Douglas D. Starks, Consumers Power Co., Jackson, Mich.
Julius G. H. Math, Southwestern Bell Telephone Co., St. Louis, Mo.
Ralph Allison, Illinois Public Utility Co., Homer, Ill.
August Zellers, Police Officer, Irvington, N. J.
Andrew J. Walsh, Police Officer, Harrison, N. J.
Cleo Chaney, Western Union Telegraph Co., Dallas, Texas.
T. H. Comer, Western Union Telegraph Co., Dallas, Texas.
A. Lovern, Sinclair Oil & Gas Co., Tulsa, Okla.
Delbert Bussell, Southern Bell Tel. & Tel. Co., Louisville, Ky.
Richard Magnuson, Commonwealth Edison Co., Chicago, Ill.
H. H. Lefferts, Student, Council Bluffs, Iowa.
Geo. R. Stevens, N. J. Bell Telephone Co., Newark, N. J.
Harold Gillespie, Student, Grass Range, Mont.
Aloysius J. Ryan, Police Officer, Harrison, N. J.
Michael Harrington, New York Telephone Co., Brooklyn, N. Y.
Squad No. 1, Portland Fire Bureau, Portland, Ore.
Roy Tryon, American Telephone & Telegraph Co., New York City.
C. L. Quinn, Indiana Bell Telephone Co., Muncie, Ind.
Wm. H. Blachly, Dain Manufacturing Company, Muncie, Ind.
W. C. Gill, Continental Oil Co., Denver, Colo.
Oswald Thiel, Boy Scout, Eugene, Ore.
James Morehouse, Indiana & Michigan Electric Co., South Bend, Ind.
Harold S. Cartledge, Indiana & Michigan Electric Co., Mishawaka, Ind.
Emil Vincent, Indiana & Michigan Electric Co., Mishawaka, Ind.
K. E. Robinson, Cincinnati & Suburban Bell Telephone Co., Cincinnati, O.
Harold Lucero, San Joaquin Light & Power Co., Fresno, Cal.
J. S. Scarborough, San Joaquin Light & Power Co., Fresno, Cal.
John Feldman, Schoolboy, Brooklyn, N. Y.
Walter J. Sursaw, Buick Motor Co., Flint, Mich.
Olin E. Perdue, American Tel. & Tel. Co., Atlanta, Ga.
Henry Loyd, Edward Hines Lumber Co., Lumberton, Miss.
William J. Keegan, Police Sergeant, Pittsfield, Mass.
Roy Allen McInnis, Pacific Tel. & Tel. Co., Milwaukee, Ore.
Hal R. Borne, Pacific Tel. & Tel. Co., Milwaukee, Ore.
Peter Andrew Snyder, Shell Petroleum Corp., East Chicago, Ind.
George R. Kronenberg, Business man, Mt. Arlington, N. J.
Jack Gilmore, Virginia Public Service Co., Charlottesville, Va.
Basil I. Williams, Professor, New Canton, Ill.
Thomas Pryce, Union Carbide Co., Niagara Falls, N. Y.
Lawrence B. Nelson, Northern Indiana Public Service Co., Ft. Wayne, Ind.

Betty Higgins, Student, Seattle, Wash.
Walter Carrico, American Car & Foundry Co., St. Louis, Mo.
Thomas Barry, Police Officer, Kearny, N. J.
B. Van Volkenberg, Police Officer, Kearny, N. J.
Mack Booth, Consolidation Coal Co., Fairmont, W. Va.
Harry H. Hinton, Illinois Bell Telephone Co., Decatur, Ill.
C. A. Bundick, Chesapeake & Potomac Telephone Co., Washington, D. C.
Charles W. Bannon, Penn Central Light & Power Co., Altoona, Pa. (Mr. Bannon also received a bar for a second resuscitation.)
Frank Devlin, Brooklyn Union Gas Co., Brooklyn, N. Y.
Henry J. Dadson, Brooklyn Union Gas Co., Brooklyn, N. Y.
Thomas Griffin, American Printing Co., Fall River, Mass.
Arthur E. Atkinson, Binghamton Light, Heat & Power Co., Binghamton, N. Y.
Rudolph Thoensen, Northwestern Bell Telephone Co., Davenport, Iowa.
Arthur H. Wanamaker, New York Telephone Co., Brooklyn, N. Y.
Ephraim Decker, New York Telephone Co., Brooklyn, N. Y.
Frank Conditt, Central Illinois Public Service Co., Springfield, Ill.
Cornelius Stolk, Public Service Corp. of N. J. Newark, N. J.
Richard Macdonald Quance, American Cyanamid Co., Niagara Falls, Canada.
William Gilchrist, Dept. of Public Safety, Belleville, N. J.
Carl E. Parker, Pure Oil Company, Muskogee, Okla.
Harry Goodwin, The Ohio Oil Company, Findlay, Ohio.
Marshall W. Booker, Virginia Public Service Co., Charlottesville, Va.
Mrs. Richard Gauthier, Housewife.
Robert McGill, Toledo Edison Co., Toledo, Ohio.

CERTIFICATES AWARDED FOR RESUSCITATION DURING 1929

Note: These certificates were awarded for meritorious service in resuscitation to those not eligible for the medal.

Sylvester Steiner, Jr., Alabama Dry Dock & Shipbldg. Co., Mobile, Ala.

Robert A. Lartigue, Alabama Dry Dock & Shipbldg. Co., Mobile, Ala.

Wilmer M. Mayson, Alabama Dry Dock & Shipbldg. Co., Mobile, Ala.

J. B. Lester, Roxana Petroleum Co., East Chicago, Ind.

Clarence A. Marshall, Police Officer, Los Angeles, Cal.

Elmer G. Casey, Police Officer, Los Angeles, Cal.

Joseph B. Ryan, Southwestern Bell Telephone Co., St. Louis, Mo.

Albert Lorenz, Cincinnati & Suburban Telephone Co., Cincinnati, Ohio.

A. S. Roughton, San Joaquin Light & Power Co., Fresno, Cal.

J. Doyle, Continental Oil Co., Denver, Colo.

Ralph J. Dempsey, New Jersey Bell Telephone Co., Newark, N. J.

James W. Hassett, Brooklyn Union Gas Co., Brooklyn, N. Y.

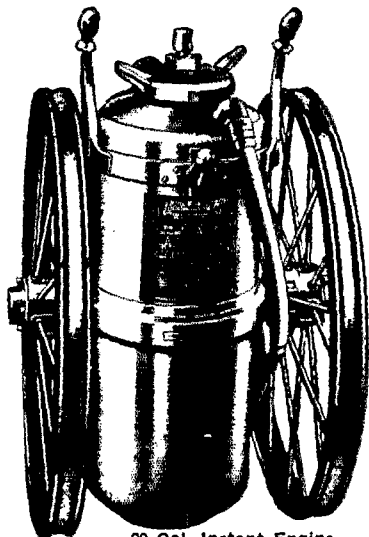
Thomas S. McKitty, Brooklyn Union Gas Co., Brooklyn, N. Y.

Leon B. Cox, The Ohio Oil Co., Findlay, Ohio.

When writing advertisers, please mention NATIONAL SAFETY NEWS

REMARKABLE EFFICIENCY IN THE "INSTANT" LINE (ANTI-FREEZE)

You can extinguish more classes of fires with the new "Instant" line than with any other hand portable fire fighting device. Under tests at Underwriters' Laboratories, this extinguisher put out in nine seconds a fire which requires from 25 to 35 seconds with other types of extinguishers. It not only extinguishes any kind of a fire in a minimum of time, but does not support combustion afterward. Large industrial plants everywhere have standardized on the "Instant" line. Names gladly furnished upon request. Many fire departments are using the "Instant" extinguishers exclusively in hand portable equipment. Here's why:



20 Gal. Instant Engine

1. ANTI-FREEZE. Operates efficiently at 40 degrees below zero.
2. WOOD AND GENERAL FIRES. Instantly extinguishes wood and general fires formerly calling for Soda-Acid and Foam.
3. GAS, OIL OR PAINT. Extinguishes fires in gasoline, oil and paint, kerosene and grease.

Listed by Underwriters' Laboratories. Exclusively a Fyr-Fyter product.



1 1/4 Gal. Instant

Built in three sizes, 1-gallon, 1 1/4-gallon hand portable extinguishers and a one-man operated 20-Gallon Engine.

HAVE YOU SEEN OUR NEW CATALOG?

Your copy of this 25-page catalog contains the latest developments in devices for combating fires. A complete library of information which lists many individual items and many illustrations, including our complete line of machines and recharges. Send for it today.

THE FYR-FYTER COMPANY

10525 Fyr-Fyter Bldg.,

Dayton, Ohio.

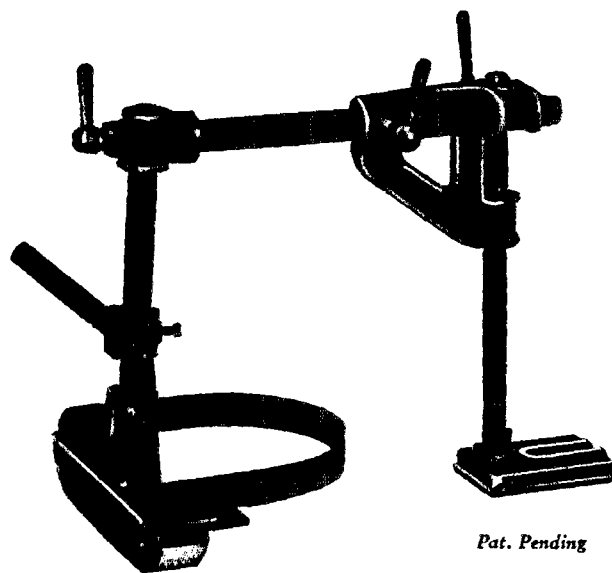
THE AULD GUARD for Shapers and Universal Wood Working Machines

THE Auld Guard is primarily a hold-down device to prevent the dangerous kick back which is the cause of the majority of injuries on shapers and Universal wood working machines.

In addition to the hold-down features, the spring tension block and hoop shown in the illustration encircle the shaper head and offer a considerable degree of protection. When used on a Universal machine, the hoop is removed.

The guard is built to stand rough usage and is easily adjustable in all directions.

The Auld Guard has been thoroughly tested in service for the past two years in one of the largest industrial organizations in the United States. It was invented by William Auld, a practical shaper hand, and may be used on 90% of the operations on which a shaper is used.



Pat. Pending

STANDARD SAFETY EQUIPMENT CO.

410 North Michigan Ave., Chicago

1060 Broad St., Newark, N. J.

When writing advertisers, please mention NATIONAL SAFETY NEWS

Beaumont Stages Safety Week



A few of the participants in the Beaumont safety week program.

Fire Protection Column



2 1/2 Gallon Foam Type Extinguisher. Ejects 20 gallons of thick, durable foam.



5 Gallon Pump Tank Extinguisher.



2 1/2 Gallon Non-Freezing Extinguisher.

**fire protection
and prevention!**

GEO. W. DIENER MFG. CO.
408 N. Monticello Ave., CHICAGO

S PONSORED by five of the strongest organizations in the city, safety week in Beaumont, Tex., saw every organized group striving cooperatively to put over to individuals the importance of practicing safety at all times. The sponsoring organizations consisted of the Chamber of Commerce, Young Men's Business League, American Legion, American Automobile Association, and schools, all of whom threw their entire forces behind the movement and called to their assistance much outside help.

Ministers preached safety, schools taught safety in every class, Sunday schools included it in their Sunday lessons, luncheon clubs had nothing but safety in their programs, women's clubs gave their meetings to the subject, industries and public utilities combined their efforts with the general scheme, junior safety councils devoted their entire time to presenting safety playlets, movies carried safety trailers and made films of the events, street cars carried signs inside and out, fraternal orders carried the message to their membership, newspapers devoted space to it, printers, advertising companies and individuals gave material and time to the program, boy scouts plastered the city with signs and posters and girl reserves and school children tagged every citizen for safety.

In addition to the individual programs in industry, schools, churches, women's clubs, fraternal orders, etc., the general committee supervised 75 programs, distributed eighty thousand pieces of literature, posted five hundred signs, furnished books for schools and literature to numerous organizations.

The days of the week of November 4 were designated in the order of "Safe Driving," "Safe Walking," "Industrial Safety," "Home Safety," "Child Safety," and "Community Safety." Programs, speeches, radio talks and newspaper write-ups were prepared specially for each day and schools studied each in consecutive order.

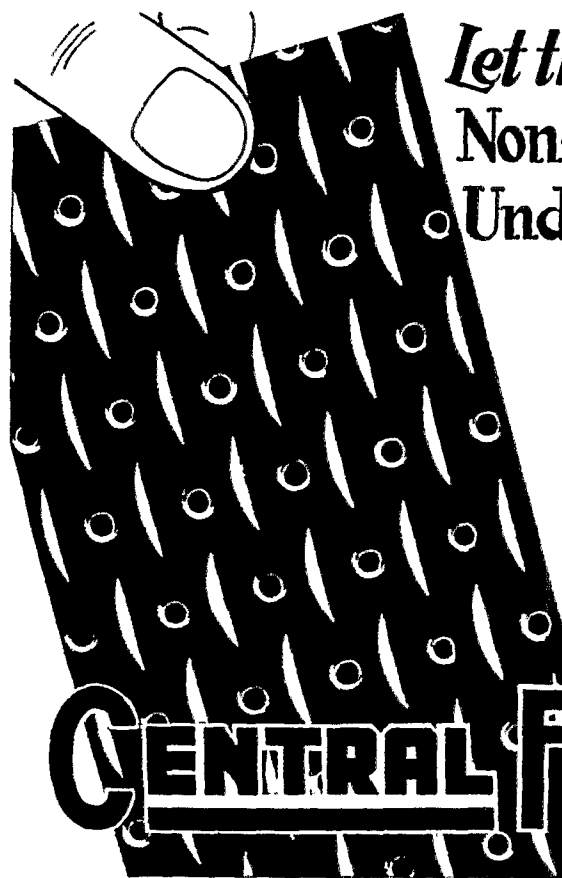
Among the speakers who addressed meetings during the week were H. N. Blakeslee, petroleum representative, and Ernest W. Corn, field representative of the National Safety Council, and D. J. Wallace, director, Safety Section, Mid Continent Oil and Gas Association.

Many stunts were used to attract attention to safe practice, two outstanding ones being the goat stunt and ambulance display. Two goats led through the streets, one of which was bandaged, carried the signs, "Don't Kid About Safety," and "You May Be the Goat." Each day an ambulance drove through the streets carrying the signs, "Put our Emergency Ambulances Out of Business," and "Make Beaumont the Safest City in the World."

Snow Storm Reveals Long-Time Parkers

A RECENT snow storm in St. Louis showed up the long-time parkers on the city streets, according to the *Globe-Democrat*. Thousands of automobiles bore evidence on the tops, radiators and running boards of the length of time they had stood, which in many cases was longer than "is compatible with proper uses of the streets for traffic and reasonable parking of persons who want space for temporary curb stops."

When writing advertisers, please mention NATIONAL SAFETY NEWS



Let this Scientifically Correct Non-Skid Surface Solve Your Under-Foot Safety Problems

The scientifically designed projections of Central "Knobby" Non-Skid Plates are correctly spaced to provide maximum "slip prevention" without tiring those who walk or stand on them and permit easy sweeping and cleaning.

Used on floors in factories and public buildings, building entrances, bridges, elevated and subway approaches, stairs, ramps, manhole covers, platforms, etc., they provide absolute slip fall protection regardless of grease, snow and ice conditions.

Let us send you a sample with complete data.

Central Iron & Steel Co.
Harrisburg, Penna.

Branch Offices in All Principal Cities

"KNOBBY"
REGISTERED
CENTRAL FLOOR PLATES
NON-SKID
U.S. PATENT OFFICE

UNDERWRITERS' LABORATORIES INSPECTED S.A.43

PRESTO BANDAGE

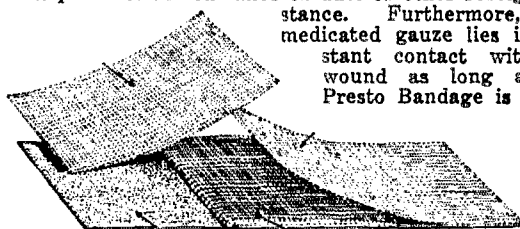
A Complete Dressing for Minor Injuries

PRESTO BANDAGE contains the three essentials in the treatment of small wounds, cuts and scratches.

STERILIZATION: The center gauze pad is treated with a highly efficient antiseptic.

AERATION: Presto bandage is the only combination dressing which allows perfect aeration of the wound.

PROTECTION FROM IMPURITIES: Although the muslin back of the bandage must be ungummed to permit ventilation, this back is so tightly woven that it prevents the entrance of dust or other foreign substance. Furthermore, the medicated gauze lies in constant contact with the wound as long as the Presto Bandage is in use



—lessening the possibility of infection.

PRESTO BANDAGE cuts the cost of FIRST AID by saving—



SHARP & SMITH

65 East Lake St.

Chicago, Ill.

TIME lost in dressing and treating wounds resulting from minor injuries.

TIME spent by nurses and First Aid personnel.

TIME lost from work by employees not injured.

TIME lost by men operating machinery who have been injured.

MATERIAL wasted on dressings.

INTERFERENCE WITH PRODUCTION.

The material used in PRESTO BANDAGE is flexible and assures free movement of any finger if applied on joint.



New Bandage



Old Bandage

**General First Aid
Supplies**

SAFETY

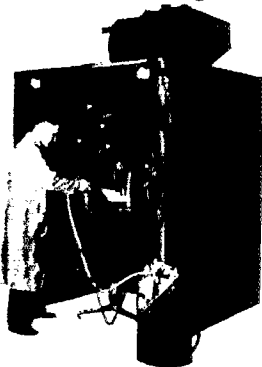
plus big returns

from

Paasche

Air Finishing Equipment

A SIMPLE layout of Paasche airfinishing equipment including Universal Multiplehead Airbrush, quick clamtight safety pressure tank, airconditioning unit, 6 ft. Exhaust Booth and compressor, paid for itself in less than a week in the plant of a well known manufacturer, who saved annually \$27,864; increased production 500% with equipment costing only \$421.20. A very small investment with a very high return.



In addition to paying tremendous dividends, Paasche units are safe. The sectional airfinishing ventilating booths illustrated are explosion-proof.

Get credit for introducing this safe and money saving airfinishing system in your own plant. Ask for recommendations without cost or obligation to you. Send coupon for complete details.

Paasche Airbrush Co.

1937 Diversey Parkway
Chicago, Illinois

New York	Pittsburgh	Denver
Boston	Cleveland	Los Angeles
Philadelphia	Detroit	Seattle
	St. Louis	

A. B. Williams Machinery Co., Toronto

SERVICE THAT PAYS DIVIDENDS

PAASCHE AIRBRUSH COMPANY
1937 Diversey Parkway
Chicago, Illinois

Send facts on time and material savings with Paasche equipment.
Have one of your engineers study our finishing and ventilating problems, without obligation.

Name
Address
City..... State.....
NSN 1-Gray

What Can We Get —

Or What Can We Give?

*Some Reasons for Participating in the Work
of the National Safety Council*

By WILL COOPER

*The Stevens Hotel Company; Chairman, Food
Section, National Safety Council*

WHEN a concern joins the National Safety Council and appoints a man or a group of men to carry on the safety work they probably restrict the scope of their activities to their own particular plant and begin to function from a standpoint of what they can do to prevent accidents exclusively in their own factory or industry. This is all right as far as it goes and it is seeking the primary object of the membership, but it is not all there is to the institution of safety. The National Safety Council is the exponent of a great moral movement.

I can remember as a boy that we went four blocks to a drug store to use a telephone because only one residence in that part of town had one. There was only one residence in the whole city of 150,000 equipped with electric lights and that belonged to the chief engineer of the electric light company.

When we consider the advances that have been made in these two utilities alone, we get some conception of the scientific discoveries that have been made in all lines even during the brief span of one human life, and we realize what Lord Kelvin had in mind when he said that, "it does not now become the man of science to doubt anything."

We now have transportation at more than 300 miles an hour, and we have television and radio to enable us to see and hear without visible connection. Business has made corresponding developments in manufacturing processes and marketing methods, such as mass production and deferred payment selling, which have operated to place many of these innovations in the hands of the masses. We have been advancing so fast that we have not learned to use with judgment all of the things that scientific knowledge has given us. In other words, our moral development has not kept pace with our physical development.

That is why I say the safety movement is a great moral movement. It is something that will stimulate our

Before the Food Section, Eighteenth Annual Safety Congress.

moral sense. It is something which, if properly appreciated and expanded, cannot help but cause the United States, if not the world generally, to pause and regard some of the finer sentiments—some of the meta-physical things of life and business, to teach us that we should not forget the personal element, that we should not think of our fellow beings as mere units in the industrial machine.

In this aspect, a membership in the National Safety Council affords incalculable opportunities for doing good. We should be members of the Council not altogether for what we can get out of it for ourselves, but also for what we can give through it to others. People who are religious support a church mainly for their own salvation but they also do it for the missionary work that the church does to benefit some who are less fortunate than themselves.

So I urge you to support the Council and take part in its activities and the work of this section. Even if you incline to the belief that your business is not a hazardous one and that you don't need to seriously undertake accident prevention work in your own industry, there are others who do. Is it not worth while to promote an instrument of propaganda that will cause them to pause and reflect on the injuries and deaths that they unwittingly cause?

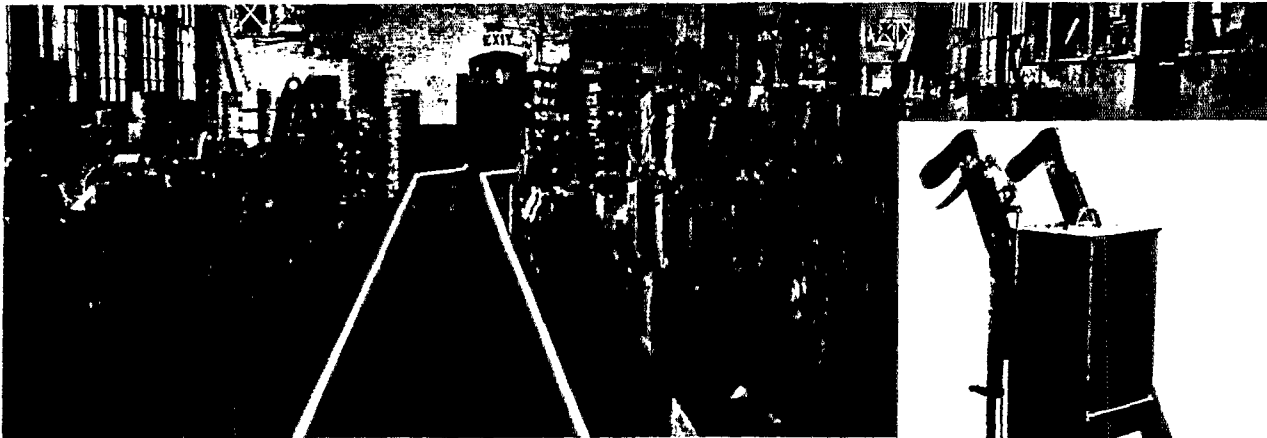
Every member of this section owes it to himself to support, as far as he can, the public safety movement, the local safety campaigns, and to try especially to get more members for the National Organization. I hope that this next year will see our membership doubled. It can be done if each member will secure one new one.

The Rural Parking Problem

FARMERS have petitioned the City Council of Centralia, Ill., for more parking space for their horses. So many motor cars are parked in the downtown streets that the horse owners can't find any place to hitch.

When writing advertisers, please mention NATIONAL SAFETY NEWS

NISSLY FLOOR LINER



Builds Avenues of Safety in Your Plant

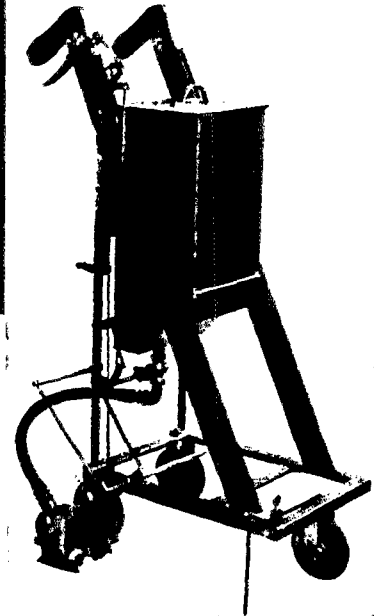
A FEW years ago traffic regulations were unheard of—but, today your life would be in danger if modern traffic methods were not enforced. As in a city—so in your plant—there should be definite traffic lanes.

The Nissly Floor Liner makes neat, definitely defined traffic lines—making it easy to keep your stocks in order—making it possible for workmen to walk through your plant without fear of stumbling, which might result in serious injury.

The machine paints as you walk. No waste of time. Nissly Floor Liners promote Safety and Efficiency at low cost.

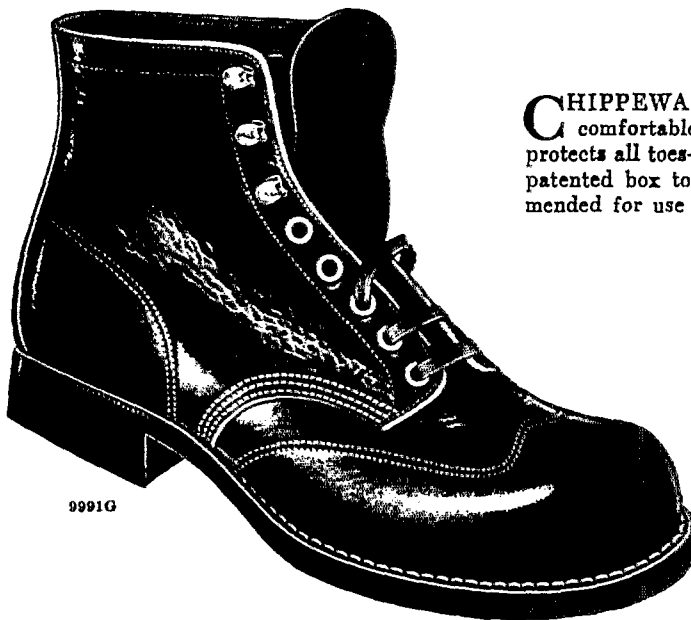
Write for details

WALTER S. NISSLY
43 CLINTON ST., N., YORK, PA.



Protect Your Feet With

“GARDTOES”



9991G

CHIPPEWA “GARDTOE” Safety Shoes are unusual, practical, comfortable shoes with an outstanding safety feature which protects all toes—yet there is plenty of space for toe freedom. The patented box toe has prevented many foot injuries. It is recommended for use in all phases of industry.

Gro-Cord soles and heels emphasize the safety of Chippewas by presenting a non-skid surface. All have steel arch supports which add greatly to foot comfort.

Write today for details of this unusual foot protection.

CHIPPEWA SHOE MFG. CO.
Chippewa Falls, Wis.

Gentlemen:

Please send us pairs of No. 9991G
GARDTOE shoes, size for 10 days
free examination. If they do not measure up to
my idea of a safety shoe, we can return them
and charge will be cancelled.

Company

Address

Name

Position

CHIPPEWA SHOE MFG. CO.
CHIPPEWA FALLS, WISCONSIN

HAVE YOU A FOOTSORE PLANT?



A CME Non-Slip Steel Safety Mats serve many purposes—they are a precaution against accidents resulting from wet, oily or worn places, keep workmen's feet dry, provide comfortable footing and greatly lessen foot soreness.

Acme mats mean safer, more efficient production at low cost. Install this comfortable, underfoot safety feature and notice the difference in your plant morale.

*Send Coupon
for the Remedy*

ACME STEEL COMPANY
2840 ARCHER AVENUE
CHICAGO

ACME STEEL CO.
2840 Archer Ave., Chicago
Please send me a sample of your Acme
Non-Slip Steel Safety Mats.

Name

Address

Company

Position

Plan Third National Conference on Highway Safety

THE Third National Conference on Street and Highway Safety, which will be attended by a thousand or more delegates from every state in the Union, will be held in Washington next May under leadership of Secretary of Commerce Robert P. Lamont, according to plans laid by the Executive Committee of the Conference, headed by William E. Metzger of Detroit, at its meeting in Washington December 16. Like the first and second conferences held in 1924 and 1926 under chairmanship of Herbert Hoover, then Secretary of Commerce, the purpose of this national gathering will be to increase the public interest in and knowledge of the traffic accident problem and to secure general agreement on needed remedies.

According to present plans, the Conference will receive reports from six committees as follows:

Maintenance of the Motor Vehicle.

Protection of Railway Grade Crossings and Major Highway Intersections.

Relief of Traffic Congestion.

Uniform Traffic Regulation.

Law Enforcement.

Statistics.

Of these, the last two subjects were covered by comprehensive reports at the earlier conferences and now require only an up-to-date restatement to furnish the public with authoritative information on these vitally important aspects of traffic accident prevention. On the other four subjects, committees are now actively at work, and three of the four committees met in Washington during December.

The Committee Uniform Traffic Regulation, whose meeting was attended by nearly 80 representatives of various interests and districts, gave careful consideration to the experience of recent years in connection with the existing Uniform Vehicle Code and Model Municipal Traffic Ordinance and unanimously agreed that these model laws have stood up remarkably well under the microscopic examinations which have been given them in nearly every state and in scores of cities. The committee early adopted a resolution stating that experience had proved the soundness of these laws and that only a few minor changes, if any, required consideration.

Only two points of major importance were brought out in the discussion. One of these was the action of New Jersey and Wisconsin in adopting, as a state law, not only Part 4 of the Uniform Vehicle Code, regulating the operation of vehicles on the highways, but also considerable portions of the Model Municipal Ordinance, even though the latter was originally intended for city adoption. It was tentatively agreed that where constitutionally possible, the New Jersey and Wisconsin example might well be emulated in other states and that portions of the Ordinance might be added to the Code as an optional appendix for adoption by the states if desired.

The other major question is speed regulation, and especially the top limit of 35 miles per hour now specified in the Uniform Code, formulated several years ago. As reported in *PUBLIC SAFETY* for November, 16 states in their recent legislative sessions adopted either a higher maximum limit or no limit whatever, and it is generally agreed that modern vehicles and highways make speeds over 35 miles per hour quite safe under favorable circumstances. The committee was not entirely satisfied either with raising the limit to 40 or 45, or removing it entirely, and instructed a drafting sub-committee to try to work out some more rational system of speed regulation. The same sub-committee, of which Miller McClintock is chairman, will formulate for submission to the whole committee definite provisions on other relatively minor details.

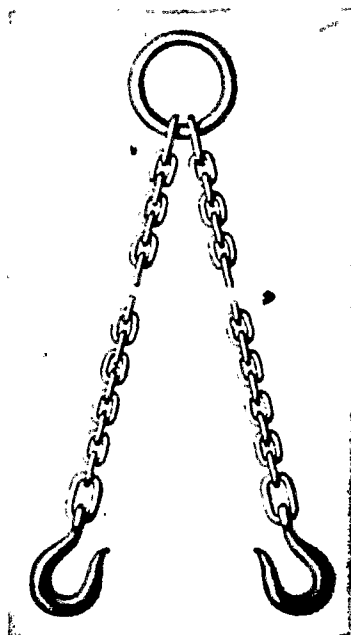
The committee on Maintenance of the Motor Vehicle, headed by William Candler of Atlanta, received reports from sub-committees previously appointed, on statistics, technical testing and maintenance standards, and methods for securing proper maintenance. After considerable debate and some amendments these reports were adopted and will now be consolidated into one report for the entire committee. It was agreed that, while available statistics are unsatisfactory and conflicting, proper maintenance of vehicles is of great importance for both safety and economy of operation; and that to obtain better maintenance a variety of measures are desirable, including more strict attention to defective vehicles by law enforcement agen-

When writing advertisers, please mention NATIONAL SAFETY NEWS

ECONOMY AS WELL AS SAFETY

IN INDUSTRY there is no economy without safety. Low prices, cheap materials do not mean economy. Strong, reliable, tested products are necessary for production in any branch of industry.

Taylor Mesaba Chains have no "weak links." They are made of a special grade of triple re-rolled, refined iron,



welded and thoroughly proof tested. Material in Taylor Chains is inspected from its rawest state until it becomes the finished product, ready for use.

You expect unusual service from a chain—it is expected to function under great strain. Taylor Mesabas will more than live up to your expectations.



Send now for new catalog.



S. G. TAYLOR CHAIN COMPANY

P. O. Box 1297-F Hammond, Indiana

Insure

Your Feet

*with that measure of
safety afforded by wearing*

Endicott-Johnson's

TOE SAVER SHOES



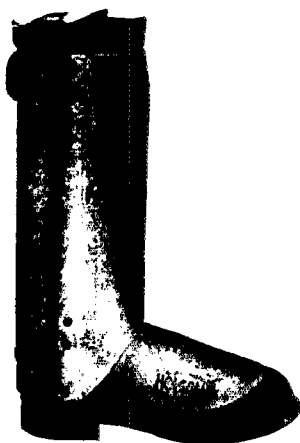
**Proven against pressure—oil—
gasoline—kerosene—water and heat.**

Made and recommended by

ENDICOTT JOHNSON WORKERS

Dealers Everywhere

When writing advertisers, please mention NATIONAL SAFETY NEWS



HOLCOMB **LEGGINGS** **INSURE PROTECTION**

HOLCOMB Leggings are recognized as standard equipment for foundries, steel plants, smelters, and other industries where leg and foot protection is essential.

The asbestos, chrome tan leather, and fire-proofed duck used in Holcomb Leggings is a proved protection against heat and splashes of molten metal.

There is a Holcomb Garment for every need. Write today for complete details.

HOLCOMB
SAFETY GARMENT CO.
Manufacturers

118 North Jefferson St.
CHICAGO, ILL.

cies as well as the most careful voluntary inspection and maintenance by fleet owners and owners of private passenger cars, the latter especially requiring encouragement and assistance along this line from the motor vehicle manufacturers and dealers. Recent steps taken by the manufacturers to bring about the final retirement of old cars fit only for the junk heap, were strongly commended.

The committee on Protection of Railway Grade Crossings and Major Highway Intersections, whose chairman is William R. Dawes, of Chicago, gave similar attention to sub-committee reports on statistics, physical hazards, signs, signals and other protective devices, and vehicle regulations, all of which will be welded into a report for the whole committee.

A. S. A. Approves Code for Building Exits

A NATIONAL standard safety code for building exits aimed to cut down the annual loss of thousands of lives by fire in the United States, has just been approved by the American Standards Association and made available for adoption by state and municipal authorities and for use by architects, engineers and builders. The code was prepared by a technical committee of 30 representatives of safety and insurance organizations, federal government departments, state departments of labor, local fire departments, architects, engineers and others. It represents sixteen years of study by this committee and its predecessors.

The National Fire Protection Association assumed the technical leadership in the preparation of the code under the national standardization procedure of the American Standards Association. The code contains an entire new section on theaters and other places of public assembly, and a revision and enlargement of a tentative code issued in 1927, covering safe exit provisions for schools, hospitals, department stores, factories and other occupancies.

In the section on theaters, the code says:

"The practice of allowing persons to stand near exits, however, should be discouraged if not prohibited altogether. The utilization of standing space within theaters or motion picture theater auditoriums should be prohibited.

The code also states that:

The line of travel to an exit door by any aisle shall be not greater than 150 feet, and if more than 100 feet it shall have not

more than one angle or turn. Not more than 20 transverse rows of seats shall be placed between cross aisles. Not more than 10 rows of seats nor 12 feet of rise may be placed between cross aisles where steps are provided in the main aisles to overcome differences in level. Cross aisles shall be not less than 44 inches wide, unless railed away from the seats fronting thereon. If so railed the width shall not be less than three feet.

Particular attention in the code is devoted to fire drills:

In buildings where the population is of a changing character and not under discipline, for example, in hotels or in department stores, no regularly organized fire exit drill, such as that which may be conducted in schools, is possible. In such cases the fire exit drills must be limited to the regular employees who, however, can be thoroughly schooled in the proper procedure and can be trained to properly direct other occupants of the building in case of fire. In occupancies such as hospitals, no regularly constituted fire exit drill is practicable. Here again, however, the regular employees can be rehearsed in the proper procedure in case of fire; such training always is advisable in all occupancies, whether or not regular fire exit drills can be held.

In an extensive section of the code devoted to schools, school buildings of low height are recommended because of their greater safety. The code recognizes the necessity for higher buildings in cities, however, and provides accordingly. The code stipulates that schools should have corridors at least eight feet wide and it recommends that in elementary schools lockers should not be located in corridors.

In the part of the code devoted to department stores it is provided that no portion of any building or section shall be more than 100 feet (along the line of travel) from the nearest exit.

Advice to Slow Drivers

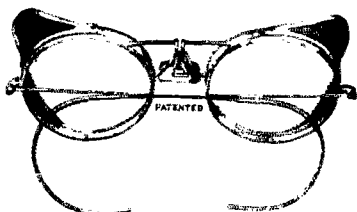
TWO spirited letters have come to the Massachusetts Safety Council from motorists who object to being called "road mopes." Says one of them: "Just because I want to enjoy the scenery is no reason why I should be charged with the responsibility of drivers who cut out of traffic and get involved in accidents."

The other writes: "How can a motorist tell when he is a 'road mope' and what can he do about it, assuming that 25 miles an hour is as fast as he wants to drive?"

Here is the advice given by the Massachusetts Safety Council: "If you are driving on a highway used by many motorists, and you see the car ahead disappearing in the distance, look behind you. If you are leading a procession, then you are a 'road mope.' All you have to do is to draw off to the right and permit these motorists to go ahead."

PIONEER GOGGLES

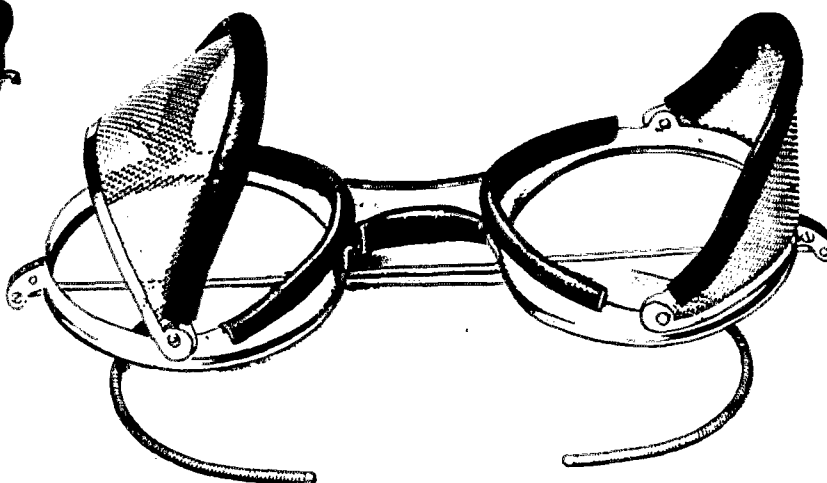
Under all conditions a Leather Padded Goggle assures greater comfort



No. 3036

A most practical goggle. The special patented bar bridge permits complete adjustability.

May be obtained with leather padding or plain, with heavy industrial temples or elastic headbands.



No. 3026

Where a regular bridge goggle is desired, we offer our No. 3026 with an assortment of bridge sizes. Obtainable either plain or leather padded with heavy industrial temples or elastic headbands.

For further particulars write your own jobber.

DUPAUL-CENTRAL OPTICAL COMPANY, INC.
Designers and Manufacturers of Protection Goggles for a Quarter of a Century.
SOUTHBRIDGE, MASSACHUSETTS.



Purify Oils and Solutions With This Powerful, but Harmless Disinfectant

—lessening loss of time, decreased output and high compensation insurance rates

Skin eruptions, boils, pus-forming sores, follicle rash, etc., are prevalent among those operators who must work in cutting oil and coolants.

Sylpho-Nathol is a powerful, but harmless disinfectant. When added to cutting oil in such small quantities as 1% by volume, it immediately begins its elimination of the pus-

forming bacteria.

Sylpho-Nathol is used widely—its practicability has been fully tested. It has been used in the home and hospital for more than 35 years.

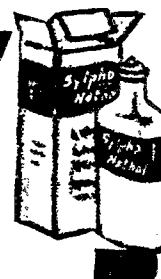
Write for bulletin giving more complete information and for a free working sample.

Sylpho-Nathol comes in one, five, and ten gallon cans, thirty and fifty gallons barrels.

THE SULPHO-NAPHTHOL COMPANY
 4 Sudbury St., Boston

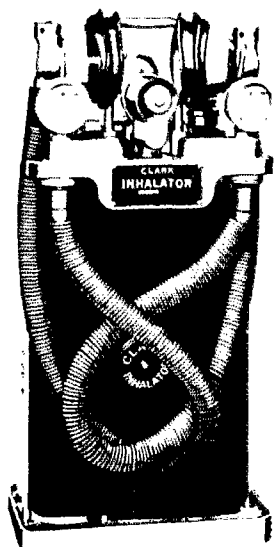
Sylpho-Nathol

ANTISEPTIC DISINFECTANT GERMICIDE



When writing advertisers, please mention NATIONAL SAFETY NEWS

The Clark Oxygen Carbon Dioxide Inhalator



THE Clark Inhalator is particularly well adapted for administering the Seven Percent Treatment, due to the fact that it provides an unlimited flow to the victim and yet wastes no gas whatsoever.

It has been tested and approved by the Committee on Apparatus of the American Gas Association.

Send for Circular

**McDONALD
ENGINEERING
CORPORATION**

**220 Varet Street
Brooklyn, N. Y.**

Governor of New Jersey Calls Second Highway Conference

TO direct the attention of the leading business and professional men and law enforcement officers of New Jersey to the fact that enforcement of traffic laws has not kept pace with the engineering side of safety, Governor Morgan F. Larson called the Second New Jersey Street and Highway Safety Conference which was held in Newark, on November 20. A request was sent to every municipality, every chamber of commerce and every important civic organization in the state to appoint two delegates. In addition, invitations were sent to state officials concerned with public safety, to leading members of the legislature, and to prominent citizens.

The conference consisted of two sessions and was attended by more than 400 persons, of whom 294 were official representatives of some 75 cities, towns, boroughs and villages of the state. Supervision and discipline of street and highway safety formed the keynote of the conference. The program was prepared to include talks by the state motor vehicle commissioner, a judge of state-wide reputation who has been officially identified with community safety work, and the chairman of the State Legislative Traffic Commission. The national aspects of the problem were presented by A. W. Koehler, secretary of the National Conference on Street and Highway Safety, and by Miller McClintock, director of the Erskine Bureau, Harvard University, and vice-president of the National Safety Council.

The fruits of the conference were contained in the resolutions unanimously adopted by the delegates and which are being widely distributed throughout the state to the governmental departments, the legislature and organization which have special interest or jurisdiction. The resolutions include the following:

1. Endorsement of the study of traffic signal lights being made by the National Conference on Street and Highway Safety to the end that national standards may be attained.
2. Urging that jail sentences instead of fines be imposed upon motorists found guilty of reckless driving.
3. Endorsement of the plan to create a permanent state traffic commission of three members which shall have supervision over all traffic laws and which shall establish a record bureau for statistics of traffic accidents and recording of data concerning violations of the traffic laws.
4. Commendation of the motor vehicle department's work in prosecuting "drunken driver" cases.
5. Calling on local governmental agencies to review the placement of stop street signs, and, wherever practicable, to substitute warning signs on the less important streets and highways.
6. Urging citizens and visitors to cooperate in the enforcement of our traffic laws and ordinances by refraining from assisting in the killing of tickets.

7. Calling on the attorney general to assist the courts in the interpretation of controversial points in the state traffic law, if any, and to institute test cases if necessary.
8. Asking that traffic hazards be presented to all meetings of organized groups throughout the state and requesting the State Board of Education to give increased emphasis to safety education in public schools.
9. Suggesting that legislation be enacted requiring court officers to endorse on the back of drivers' licenses facts concerning convictions for violations of the traffic laws and ordinances, at the time the conviction is obtained.
10. Suggesting that the issuance of motor vehicle licenses be prohibited where owners cannot show evidence that the motor vehicles were inspected after September 30 of the preceding year.
11. Urging that legislation be enacted requiring all motor vehicles to be equipped with reflectors to be placed at the rear of the vehicle (near the tail light) which will reflect the lights of cars approaching from the rear and thus give protection in case of failure of tail light.
12. Urging that pathways be provided alongside state and county highways for the use of pedestrians who now find it necessary to walk on paved roads.

The honorary chairman of the conference was Governor Larson and honorary vice-chairmen were appointed from nine of the larger communities of the state. The general managing committee in charge of the conference was under the chairmanship of Robert J. Rendall, president of the Hudson City Savings Bank, with Fred M. Rosseland, secretary-manager of the Newark Safety Council, as secretary, and John J. Fitzgerald, executive secretary of Paterson Chamber of Commerce, serving as chairman of the resolutions committee. Allison J. Van Brunt, director of safety education for the Public Service Corporation of New Jersey, served as chairman of the registration committee. The conference went on record requesting that the general managing committee continue in office to secure maximum possible action on the resolutions and the general purposes of the conference, and, furthermore, authorizing it to call another conference if and when deemed necessary.

WANTED

Position Safety Engineer, capable of handling employment department and safety work. Will consider insurance company or industrial plant any place in the South. Understand compensation schedule rating. Address Box 262 National Safety News.

Ice Coated Streets Cause Traffic Tieups

TRUCK SKIDS, KILLING MAN

Many Injured by Sliding Autos on Icy Roads --- Several Coasters Skate in Streets

10 INJURED, MANY CARS CRASH AS ICE COVERS HIGHWAYS

Sudden Drop in Mercury from 36 to 22 Makes Streets and Walks Treacherous.

POG HOLDS UP VESSEL

Keeps All But Three Ships in Coming In---Steam and Tug Delayed---Lighted Boat

TRAFFIC TIED UP BY ICE ON STREETS, RAILS

Slippery Going Handicaps Trolleys, Autos, Walkers

Boston Traveler

2 DEAD 17 HURT ON ICY STREET



2 DEAD, 17 INJURED

GIRL KILLED IN CAR NEAR ALLEN'S HOME

Three Others Seriously Hurt When Motor Skids

MANY ACCIDENTS IN CAMBRIDGE

Key Streets and Main Road Hit

A little sand or cinders would have prevented this. The protection against ice is more important than the removal of snow.

"HANDY SANDY"

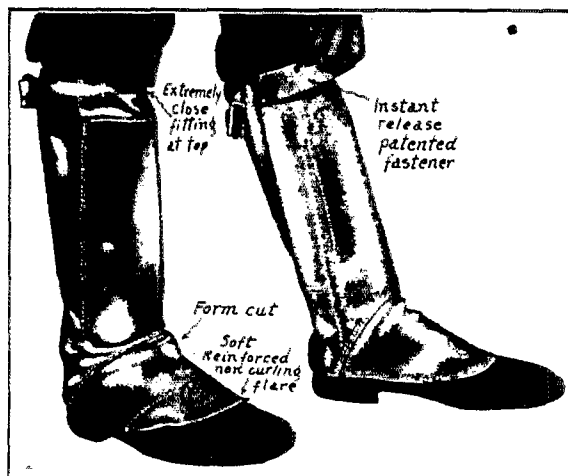
Spreads miles of protection at low costs.

Made in two sizes for use with all types of trucks.

Write for Information:

HIGHWAY SERVICE, Incorporated, 11 North Sixth Street, NEW BEDFORD, MASS.

Heat—Flame—Splashing Metal



The new Allsafe special fastener makes it possible to whip legging off with one quick pull. Duralumin side brace gives strong though flexible support. Soft chrome leather flare. Fibre board slip front protection. General construction to give great comfort with long life.

AMERICAN ALLSAFE CO.
71 West Huron St. Buffalo, N. Y.

These are the hazards of foundry and steel mill. Terrific heat, leaping flames, flying sparks. White hot metal that lashes out like a serpent's tongue. And the he-men who meet these dangers daily need special equipment for safety.

The "ALLSAFE" Speed Legging

is the newest development for the safeguarding of metal-workers' legs. On or off in an instant. No buckles, straps or springs. Entirely comfortable. Adjustable to perfect fit without finding or chafing.

And Heat, Metal or Acid Cannot Get Through

A sample pair for your inspection will be sent upon request. Just mail the coupon.

American Allsafe Co.,
 Buffalo, N. Y.

You may send me for inspection a pair of Allsafe Speed Leggings.

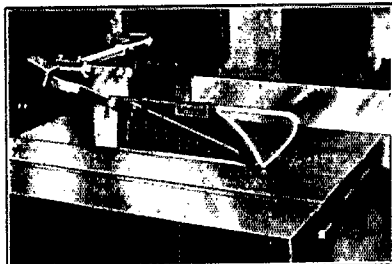
Name

Address

When writing advertisers, please mention NATIONAL SAFETY NEWS

Flohr Automatic Saw and Jointer Guards

for Woodworking Machinery



Superior Saw Guards are made in sizes to fit saws from 6 in. to 36 in. in diameter.

The SUPERIOR SAW GUARD, operating absolutely automatically, adjusting itself to the varying thicknesses of lumber with no attention from the operator, leaves the operator free to devote his entire attention to the work at hand. Increased production and satisfaction of the operator are assured.

READ the reasons why:

1. Safety.
2. Sturdy and rigid construction.
3. Vibration practically eliminated.
4. Operates on either tilting or non-tilting saw table or tilting saw arbor.
5. Equipped with splitter.
6. Equipped with "non-kick-back" fingers.

If you are not familiar with the Flohr Saw and Jointer Guards, send for one on our ten-day-trial basis.

Manufactured by

Helios Mfg. Corp.

P. O. Box 487

Buffalo, New York

THE HONOR ROLL

Details of No-Accident records in excess of 50,000 man-days, or 200 working days, are invited for publication in this department. Records may be for an entire plant or for a department. Special reporting forms furnished on request.

Chicago & Illinois Midland Railway.

With 60 men employed, the locomotive department of the Chicago & Illinois Midland Railway Co. at Taylorville, Ill., has operated since October 26, 1927, without a three-day reportable injury, a total of 775 days at the time of reporting.

Eagle-Picher Lead Co., The.

The following departmental records are reported by the Eagle-Picher Lead Co., Hillsboro, Ill.

Department	No. Men	No. Days
Yards	23	1,344
Sulphuric	9	1,257
Extra	9	569
Hegeler	11	564
Maintenance	16	469
General	12	292
Oxide	42	176

Eastern New Jersey Power Co.

The Eastern New Jersey Power Co., operating trolley cars and buses and serving electricity to an area on the northern New Jersey seashore, operated from June 14 to December 2, 1929, without a lost-time accident. During this time the exposure was 469,858 man-hours. The record was broken when a merchandise salesman, crossing the street in front of the office, was struck by an automobile.

Kansas City Public Service Co.

On Saturday, December 7, 1929, the general repair shops of the Kansas City Public Service Co., Kansas City, Mo., completed a full year without a lost-time accident. This shop employs an average of 180 men. At the time of going to press the accident was still unbroken.

Midvale Co., The

The entire steel mill of The Midvale Company at Nicetown, Philadelphia, Pa., established the best record since the organization of safety work in the plant 20 years ago by operating 112 working days without a lost-time accident. The average working force was 2,152 and the total exposure was 241,024 man-days. This record, which is one of the best yet established for any industry, terminated October 10, 1929, when a machinist suffered a broken arm. A previous record of 165,325 man-days came to an end on March 8, 1929. The Midvale Company was the winner of the trophy in Group A of the Iron and Steel Safety Contest with a frequency rate of 1.404 for the first six months of 1929.

Shell Petroleum Corp.

Norco Refinery of the Shell Petroleum Corp. at Sellers, La., with 1203 employees, ended a record of 58 days without a lost-time accident when a cleanup foreman suffered a foot injury. The total exposure was 69,774 man-days.

Tennessee Copper Co.

The following records of days worked without lost-time accidents, which are still unbroken at the time of reporting (December 9):

The lead-burning crew, with 41 men, has worked since November 4, 1926, a total of 1,131 days without lost time. The exposure was 46,371 man-days.

The power and electric department, has operated since July 1, 1928, with an average force of 32 men. A total of 525 working days or 16,800 man-days.

The Mechanical Department has had no lost-time accident since May 9, 1928, a total of 577 working days or 42,655 man-days.

Union Carbide Co.

Clarksburg Works of the National Carbon Co., Clarksburg, W. Va., completed a second consecutive year without a lost-time accident on October 14, 1929. This period covered 823,865 man-hours and the average number of employees was 159.

East St. Louis Works of the National Carbon Co. at East St. Louis, Ill., has also completed two years without a lost-time accident. During the two-year period ending October 11, 1929, the exposure was 807,549 man-hours. The average number of employees was 159.

Duluth Works of the American Carbide Co., Inc., Duluth, Minn., on September 22, 1929, completed a full year without a lost-time accident. During this period 72 employees worked 185,489 man-hours. The plant is engaged in the manufacture of ferro-alloys by electric furnace process and in sheet metal fabrication.

The above records have not yet been broken. All plants operating a full year or 1,500,000 man-hours receive a bronze tablet in recognition of the accomplishment.

* * *

Union Drawn Steel Co.

With an average force of 180 men, the Union Drawn Steel Co. at Gary, Ind., completed 100 days without a lost-time accident on November 30, and at the time of reporting the record was still intact. The exposure was 140,535 man-hours during the period. A mixed committee of foremen and workmen has been instrumental in bringing about a reduction of accidents.

United States Asbestos Co.

The United States Asbestos Co. at Manheim Pa., had long tried for the goal of a month without a lost-time accident, but 28 days seemed the limit. During November, 1929, their ambition was achieved and the record at the time of reporting stood at 45 days. The average number of employees was 478.

When writing advertisers, please mention NATIONAL SAFETY NEWS



BACK of the HOOVER PLAN

WHILE great industrialists are rallying their tremendous resources to the 1930 Prosperity Drive—let us remember that greater business activity demands increased SAFETY measures for those who will do so much, physically and mentally, to make the Big Drive successful and profitable.

For back of the plan, after all, is the safety, efficiency and morale of the nation's workers. **STONEHOUSE** Accident Prevention Signs will play their part in this great drama of safe operation.



Stonehouse

SIGNS, INC.

STONEHOUSE BLDG. 842 LARIMER ST. DENVER, COLO. U.S.A.

This Free Applicator Bottle of **MERCUROCHROME** will convince you that it is the logical successor to Tincture Iodine for First Aid Prophylactic and General Antiseptic Use—

MERCUROCHROME stains as Iodine does, and it is the stain of Mercurochrome, as it is of Iodine, that shows just where and how effectively the germicide has been applied; it fixes the bactericidal agent in the field for a relatively permanent period which prolongs the asepis or the sterilizing effect, and it provides for demonstrable penetration into the tissues beneath the superficial surfaces. Inasmuch as Mercurochrome is definitely proved an extremely efficient general antiseptic, it is only reasonable to consider it the successor to Iodine in this field, as it is free from the objectionable features of Iodine, for *Mercurochrome does not irritate, burn or injure tissue.*

Sell yourselves first with this free sample:
HYNISON, WESTCOTT & DUNNING
 BALTIMORE, MD.



HYNISON, WESTCOTT & DUNNING
 Dept. S, Baltimore, Md.

Please send me free Mercurochrome Applicator Bottle for personal use.

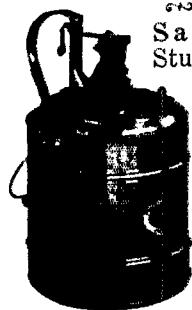
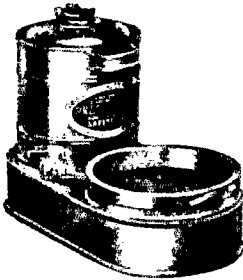
Name

Company

Address

FOR GASOLINE AND OTHER HAZARDOUS LIQUIDS

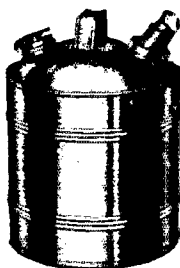
Swabbing Can — Reservoir tank supplies liquid as needed. A safe and efficient means of moistening swabs and sponges. In case of ignition fire automatically goes out when moisture on top of screen burns away.



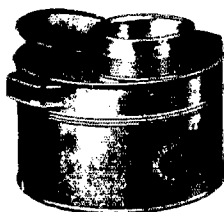
Safety Can — Sturdy construction throughout. Heavy cast spout. Shock rim base of 1/2 steel protects lower seams. Leaks practically impossible. Double cylinder screen in base of spout serves as flame

baffle. Fire is prevented entering can. Safety present whether cap is on or off.

Service Can — Adapted to rapid filling and pouring. Full sized nozzle fits fill opening. Screen flame baffle in fill and pour



openings. Protection with cap on or off. Cap stops leakage—provides seal and pressure relief.



Wash Can — Wire basket rests in liquid, holds small parts. Several up and down

movements thoroughly cleans these parts. In case of ignition, close lid and fire goes out.

Mail Coupon Today for Catalog

The Protectoseal Co.,

226 N. Sheldon St. Chicago, Ill.

THE PROTECTOSEAL COMPANY,
226 North Sheldon St., Chicago, Ill.
Please send us your catalog "Safety Devices for Hazardous Liquids."

Name

Address

Safety-izing the West Penn System

(Continued from page 12)

lected the educational program is foredoomed to failure.

That this plan has brought results is indicated by comparing the record of 1928 with that of 1923. During 1923 the average number of lost-time accidents per month was 58; during 1928 the average was 18.

Improvement continued during 1929, when the 2,548 employees of the West Penn Power Company worked two months without a lost-time accident. The Power Division, with 1,000 men, had three clear months, and the Springdale station, with 250 employees, completed 393 days of safe operation.

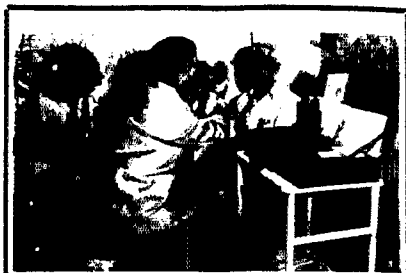
Accident prevention efforts do not stop with "safety-izing" the West Penn System. Independently and in conjunction with the Western Pennsylvania Safety Council, the company is extending its safety program to the territory it serves with electric power and railway services.

One important contribution to the public has been the installation of inhalators at six central points in the territory. These devices are manned by trained rescue squads, skilled in resuscitation work, who are available for emergency service at any time anywhere within the community.

Cars of the West Penn Railways Company are used to carry public safety messages, both on dash cards and on interior car cards. White cars on which safety slogans are painted have been used in regular service for several years.

Community safety meetings are held frequently under West Penn auspices or in cooperation with other organizations. The company band, in which Mr. Webb is bandmaster and utility French horn player, helps to arouse enthusiasm and interest in meetings and is one of the many common interests of the employees.

The schools have also been beneficiaries of the greater safety program of the West Penn System. Bulletin boards and memberships in the National Safety Council have been contributed to many schools. Speakers from the safety department visit all schools twice a year and give talks before some 25,000 children annually. Executives of the company feel that these community activities are not only valuable in improving public relations but also indirectly helpful in conducting safety work among employees.



EYES AT AGE FORTY

At forty years of age there is greater need for glasses.

As a result of this need the employe gets new habits, such as chatting with other workers and in different ways taking his eyes off his work.

It is a physiological urge for rest yet the worker is unaware of the remedy.

KINDY INDUSTRIAL EYESIGHT SURVEYS

will lessen this waste and increase production.

Write, Wire or Phone

KINDY OPTICAL CO.

116 So. 13th Street

PHILADELPHIA, PA.

BRANCHES

Milwaukee, Wis.
Detroit, Mich.
Kalamazoo, Mich.
St. Louis, Mo.
St. Paul, Minn.
Minneapolis, Minn.

Duluth, Minn.
Superior, Wis.
Aurora, Ill.
Lincoln, Neb.
Pittsburgh, Pa.
Philadelphia, Pa.

When writing advertisers, please mention NATIONAL SAFETY NEWS

By-Products of a Safety Record

*The Financial Saving to the Company and to
Employees Was Only Part of the Benefits
of a No-Accident Year*

By J. R. STEGMAN

*Manager, Hammar Brothers White Lead Company
East St. Louis, Ill.*

DURING 1928, there were 17 lost-time accidents in our plant. One of them was a fatality and several resulted in serious disabilities. The plant employs an average of 120 men.

For the first eight months of that year there was no fixed safety program. Safety was delegated to the foremen of the various departments but there was little direction of their efforts. On September 1, 1928, a safety director was employed and given jurisdiction over the whole plant, reporting directly to the management. One accident occurred during the remaining four months of the year as compared with 16 during the first eight months.

The last lost-time accident in this

plant occurred November 22, 1928, and on November 22, 1929, we celebrated a full year without a lost-time case—a remarkable improvement over the experience of the previous year. On June 30 we were awarded a silver plaque by the St. Louis Safety Council as winner of our group in the industrial safety contest held during the preceding six months. For the contest the plants in St. Louis and the adjacent territory in Illinois are divided into seven divisions.

Since accomplishing a year without accidents we have found that our employees have shown greater loyalty, more efficiency and a deep sense of pride in their plant, and relations between employer and em-

ployee have become increasingly cordial. Employees are proud of the silver plaque hanging at the entrance of the plant.

From our observation the record achieved thus far has been due largely to A. M. Weinmann, who is in direct touch with the employees at all hours of the day. This policy has encouraged friendship in all departments and it has enabled the safety director and the employees to understand each other's problems. We believe that these methods leave an indelible impression upon every man who, for any reason, leaves our employ.

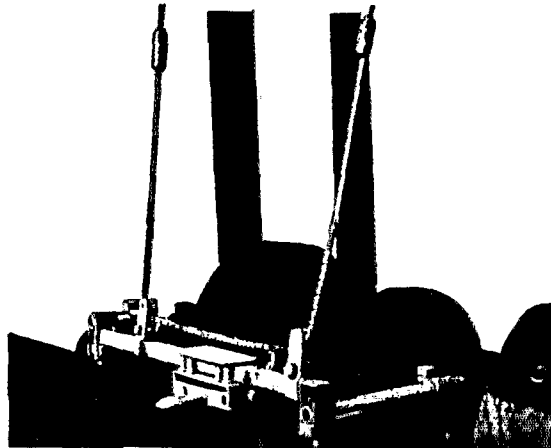
Employee turnover has been greatly reduced. Individual policies in our group life insurance program have been materially increased. Greater efficiency resulting from safer production has been the means of increasing the wages of employees who deserved such increases. The direct savings to the company and to the employee are obvious.

Along with the accident prevention program greater attention has been given to health problems. Lead poisoning, our greatest health hazard, has been given special study and such cases have been almost eliminated.

The Reznor Quick-Acting, Safety Belt Shifter

is an intensely practical device for preventing accidents on lathes, drill presses, shapers and other tools with cone pulleys.

*A sure booster of
production!*



The men like it!

Mr. Plant Manager—It would be a good idea for you to know *why* a long list of the best known plants in this country have equipped with Reznor Belt Shifters. We furnish the proof in *your* plant without obligation.

REZNOR MFG. CO.

MERCER, PENNSYLVANIA

MARSHALL'S GLOVES FOR LINEMEN



AN electrician's hands are his most valuable asset — they should always be protected. Marshall's Linemen's Gloves offer this protection, since they are designed especially for electricians and linemen. Tested to 10,000 volts, they insure safety, service, durability.

Marshall's Gloves are pliable and well-fitted, giving their wearer comfort as well as protection.

The danger of handling electrical lines is greatly lessened by Marshall's Rubber Gloves.

Write for Catalog.

LINEMEN PROTECTOR COMPANY

**Penobscot Bldg.
DETROIT, MICH.**

First Aid Treatment for Snake Bite

By F. L. FLACK, M. D.

Chief Surgeon, The Sinclair Oil and Gas Company

TO RENDER first aid treatment in cases of snake bite properly and intelligently, it is essential to understand the manner in which the snake bite produces its bad results and to counteract all these deleterious actions. The poisonous snakes of North America are rattlesnakes, copperheads, vipers, moccasins, the coral snake and the gila monster. Of these the more common are the copperhead and the rattlesnake; the coral snake and the gila monster are found in Texas, Mexico and other southwestern localities.

To be of most value the treatment of snake bite should be immediate and thorough. We must do something at once and not wait until it is possible to secure serum, although there has, of course, been developed a serum which is highly efficient in the treatment of snake bite. Usually serum is not available immediately, and the highest importance therefore attaches to first aid treatment.

The poisons from all the poisonous snakes mentioned is similar. The first thing noticeable following a snake bite is a sharp sting, followed by a burning pain. Usually two small wounds, sometimes only one, are to be seen. Immediately around these wounds there is a redness and swelling, which rapidly spread. Occasionally the fangs of the snake may be left in the tissues and these should be removed. The treatment follows definite logical lines.

The first thing is to prevent or retard the entrance of the poison into the blood circulation. This is best accomplished by constricting the limb by application of a tourniquet. This is most effectively applied to that part of the limb in which there is but one bone, for example the upper arm or the thigh. The constriction, of course, must not be continued too long as it might produce gangrene. Men who have had first aid instruction know the length of time that a tourniquet may be applied with safety. The object is to retard the absorption of the poison. The constriction and tourniquet should be removed gradually.

The next thing is to remove or destroy the poison where it has been injected into the tissues. This is best done by taking some sharp instrument, a clean knife or razor blade, and making multiple cuts into the area that has been bitten. These cuts should be deep enough to make the area bleed freely

HALSEY TAYLOR *Drinking Fountains*

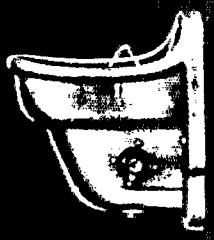


You owe it to yourself to find out why Halsey Taylor Drinking Fountains are more satisfactory in every-day service, and why industrial plants, schools, public buildings, hospitals, etc., make sure of sanitation by specifying **HALSEY TAYLORS!**

The Halsey W. Taylor Co.
Warren, Ohio

Why They're Health Safe

It's not just an accident—this assured sanitation that Halsey Taylor fountains give. It's the practical, automatic stream control and two-stream projector—patented features that mean maximum health—safety and drinking convenience, to say nothing of freedom from servicing!



No. 603

illustrated herewith, a popular-priced vitreous china wall type with all exposed fittings chromium plated—and all the exclusive Taylor features of course!



No. 618

Heavy vitreous china receptor; Steel tubing standard and cast-iron open base for connections, above floor line. Gray finish. Two-stream projector, automatic stream control. One of many desirable types for industry!

Write

for illustrated catalog showing complete Halsey Taylor line.

as in this way the poison will be washed out by the blood.

The area thus treated should next be covered with potash crystals or a strong solution of potassium permanganate. If a red hot iron is available this should be applied to the point that has been bitten.

We should endeavor to hasten the elimination of the poison. This is best done by giving large doses of salts and also encouraging the patient to drink as much water as possible. The strength of the patient should be maintained. The body should be kept warm. Artificial respiration may be necessary.

It should be remembered that the poison of serpents is eliminated quickly and the patient suddenly recovers or it rapidly destroys life. Active treatment and hope should be maintained to the end. Every method possible should be used to keep the patient alive. The element of time is of the greatest importance.

Alcohol has no value in the treatment of snake bite. It is only a temporary stimulant and is followed by a depression, the last condition being far worse than if no alcohol had been given.

In cases where there is no infection of the mouth, such as from pyorrhea, suction of the wound by mouth is also of great value.

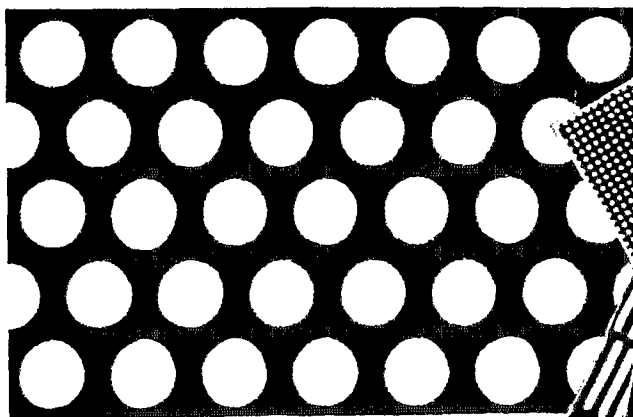
Chain of Gasoline Stations Employs Older Men

A CHAIN of gasoline stations in the West is reported by the National Industrial Conference Board to be operated almost exclusively by men of middle age or older. The employees range in age from 45 to 85 years.

The owner is reported to claim that the employment of older men is good business and not philanthropy, as he finds them more courteous, more reliable, more careful in the care of their stations, taking more pride in their work than many younger men.

Brake-Testing Equipment Is Little Used in France

BRAKE testing campaigns, as conducted in this country, are unknown in France. Only two automobile manufacturers and not more than three of the best equipped garages in the country have equipment for testing brakes, according to the Automobile Club of Illinois. The machinery in use is of American manufacture.



(No. 22 gauge steel, 1/4 inch thick—Sheets, 36x120 inches with 1/2-inch holes)

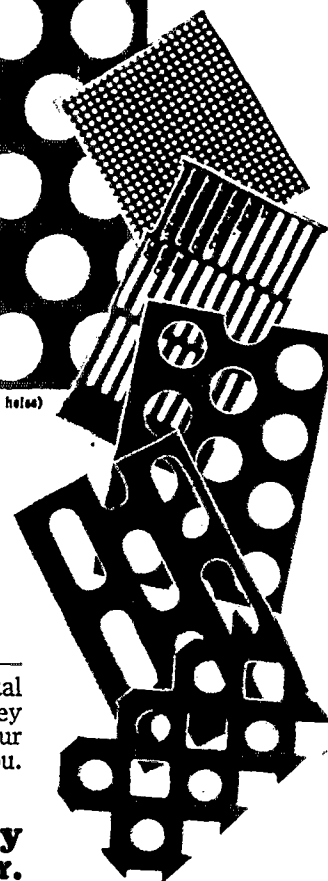
In Stock—

aluminum, brass, copper, steel and zinc blank sheets, ready to be made into guards to fit your particular needs. The Erdle Perforating Company also manufactures a complete line of Perforated Steel Metals.

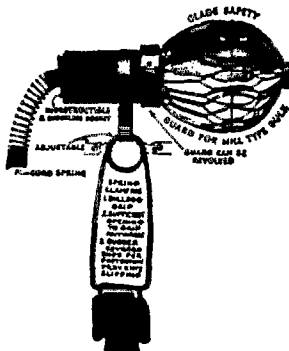
Erdle Metal is strong and durable. Above all—it is economical. Guards made of this metal are found to be unusually satisfactory, for they are made exactly in accordance with your wishes. Any procurable size will be sent to you.

Write today for details

Erdle Perforating Company
171 York Street Rochester, N. Y.



Eliminate Short Circuits with GLADE SHOP LIGHTS

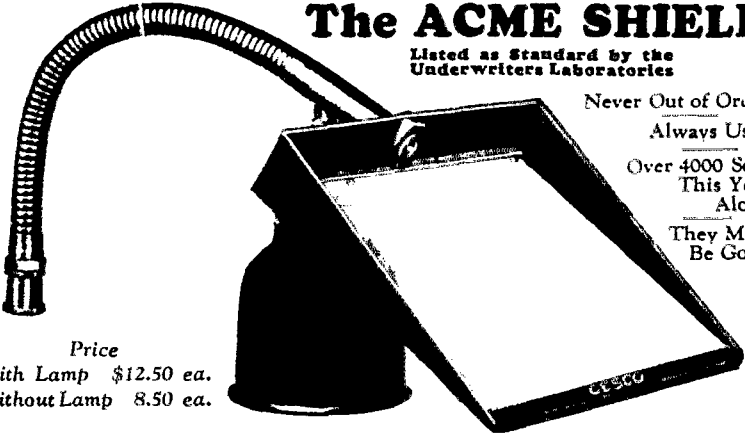


*The Shock-proof
Sockets on All
Glade Shop Lights
are—Oil-Proof
—Grease-Proof
—Gasoline-Proof*

GLADE Safety Shop Lights are built to meet the exacting demands of modern mechanics. The sockets are indestructible and equipped with a cord clamp that takes all the strain off the terminals and prevents short circuiting. Another feature is the revolvable safety guard and reflector that protects the user against burns. The adjustable spring clamp saves time and money wherever used. Send for complete information and exceptionally low prices. Dark winter months are approaching when the demand is the greatest.

GLADE MANUFACTURING CO.
1603 S. Michigan Blvd. Chicago, Ill.

The ACME SHIELD
Listed as Standard by the
Underwriters Laboratories



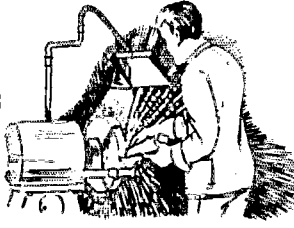
Never Out of Order
Always Used
Over 4000 Sold
This Year
Alone
They Must
Be Good

Price
With Lamp \$12.50 ea.
Without Lamp 8.50 ea.

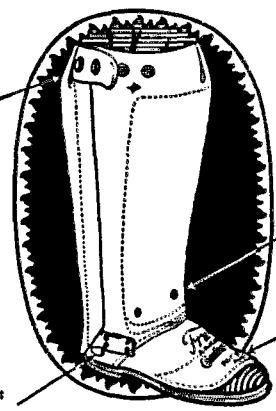
THE Acme Shield in your plant means but one thing: an instant reduction of accidents at the emery wheel from the moment of installation. The Acme comes to you ready for use—complete with heavy flexible arm, non-shatterable glass shield, and necessary fittings. It may be had with or without the individual work light.

Sold by all machinery supply houses

Manufactured by
CHICAGO EYE SHIELD CO.
2300 Warren Blvd. CHICAGO, ILL.



Points of Superiority
in
FRANK Foundry Leggings



Fool proof fasteners. Six adjustments to fit any leg.

Fibre reinforcement riveted to body of legging.

Double chrome leather noncurling flare.

Aluminum alloy stay does not rust like steel.

No. 5000

that's why
Nearly 1000 foundries and steel mills use Frank Leggings. They stand the Gaff.

that's why
They are the most economical leggings to buy at any price. Measured by cost per day of service they are the cheapest leggings on the market.

that's why
Insurance men recommend them. Foundry Superintendents like them. Moulders wear them.

Mail the coupon for information about Frank Leggings and our other Safety Clothing

The Safety Clothing Co. Manufacturers
3804 Payne Ave. Cleveland, Ohio

The Safety Clothing Co.,
3804 Payne Ave., Cleveland, Ohio
Gentlemen: Please send complete information on Frank Leggings and your Safety Clothing to

Name
Company
Address
City..... State.....

Date.....
We are most interested in
☐ Leggings ☐ Spats
☐ Helmets ☐ Aprons
☐ Gloves ☐ Clothing
☐ Mittens ☐ Finger Cots

The Executive and Safety

(Continued from page 19)

why this was so, he said, "Ah can't exactly account fo' it lessin' it is that ah had mo black horses than ah had white horses."

The logic of the manufacturer and that of the old negro is equally unconvincing to the enlightened executive. It seems almost a truism that a clean, neat and safe plant, factory or mine, in which the employees contentedly work under conditions as pleasant as the circumstances of the work may permit, is necessarily more efficient and richer in productivity than one of which the opposite is true.

It is not the intent of this brief and superficial discussion to enter into the various phrases of the relation of employer to employee, nor to consider the several factors tending to produce that harmonious and sympathetic accord which alone can develop the fullest potentialities of any industry. That the human, intelligent and sympathetic interest of the executive is a factor in creating a responsive spirit of the part of the other workers must be admitted. While the paternalistic attitude may be resented, the kindly personal interest of the employer makes a direct appeal to the heart and head of the rank and file of labor.

In reducing the number of preventable accidents, as in any other human activity, orderly planned, intelligent effort results in greater accomplishment than loose, slipshod, hit-or-miss methods. One executive informed me that he meets personally once a day with all of his employees and talks caution. If this is actually done it should achieve splendid results. But I am somewhat reminded of three women who were talking together, one of them said, "In all the fifteen years of my married life my husband has not said a single cross word to me." The second woman replied, "My, I wish I could say that." The third one said, "Well, why don't you? She did." It is far from reasonable to expect to reduce accidents with a cautionary word or two every now and again to the employees as to being careful.

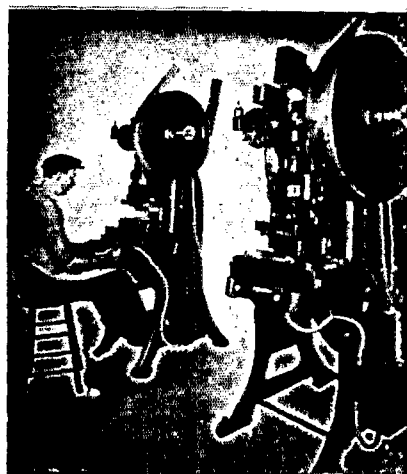
The human spirit is adventurous; it seeks new experiences, new sensations; gropes its way unflinchingly into unknown territory, both mental and material. The progress of civilization has largely been due to those adventurous spirits who have dared unknown dangers to blaze the way that later generations may follow in safety. It is not unreasonable to believe that in many instances the lack of care and caution of the workman is attributable

Punch Press Operators Are *Safe!!*

WHEN presses are equipped with the Electro Punch Press Guard, which is a combination of two safety factors—the operation of the press by push buttons and an anti-repeat-mechanism which prevents the repeating of the press.

The Electro Punch Press Guard not only protects the operator by keeping his hands away from the danger zone, but also enables him to practically double his production. Operator works in a comfortable sitting position. No fatigue from the one-foot treadle process.

You'll want to know more about this guard. Send in the coupon—no obligation.



Safety Appliance & Machine Co.
904 Donovan Building
Detroit, Michigan

SAFETY APPLIANCE & MACHINE CO.
904 Donovan Bldg., Detroit, Mich.

Gentlemen:
Send me copy of booklet "Taking the Hazard Out of Punch Press Operations."

Name

Company

Address

to this willingness to face danger, the expression of the spirit of adventure, as well as a desire to serve more quickly and effectively the ends of his employer, whom he may like, respect and admire. He must be taught to discriminate between the bravery of the hero, courageous without stint for a worthy cause, and the needless exposure to danger which may be easily avoided with proper care and caution, and that in exposing himself unnecessarily to plant and factory hazards he does not serve his interest nor that of his employer, but actually is jeopardizing both.

I firmly believe that the employee, if convinced that his employer's interest in seeing that he is not hurt is prompted by good will and human kindness, will respect and admire his leader all the more for that interest in him and his welfare. He is not in a position to ask that he be protected; he would feel that it was undignified and even cowardly to do so, but the responsibility is on the executive none the less.

I wish that everyone who has labor under his control could carry in his mind and heart those lines of Pope, which, though written two centuries ago, seem prophetic in their application:

Teach me to feel another's woe,
To hide the fault I see.
That mercy I to others show,
That mercy show to me.

May God speed the day when this spirit shall guide our thought and govern our conduct.

Federal Aid Eliminates 390 Crossings in 1928

A RECENT statement by the Bureau of Public Roads of the United States Department of Agriculture shows a total of 390 grade crossings were eliminated from the federal aid highway system in 1928. Of the 390 crossings, 107 were grade separations and 283 were done away with by relocation of highways. During the period from 1917 to the first of 1929, a total of 4,291 crossings have been eliminated on the federal aid system with federal aid—947 through grade separation, and 3,344 through relocation of highways.

For the year 1928, Wisconsin headed the list of eliminations with a total of 35; Alabama second with 31; Michigan, 26; Texas, 25; Indiana, 24; Kansas, 23; Montana, 22; Georgia and Illinois each are credited with 21, and Mississippi with 17.

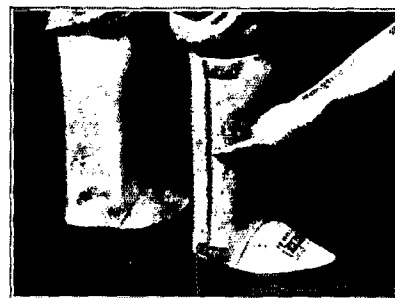
SPECIFY



**QUALITY FIRST
SAFETY FIRST**

APRONS
ARM PROTECTORS
BLANKETS
COATS
GLOVES
HAND PADS
HELMETS
JUMPERS
KNEE PADS
LEGGINGS
LEG-SAFES
MITTENS
OVER-SHOES
PANTS
SLEEVES
SPATS

MADE OF ASBESTOS—LEATHER
OR FIREPROOFED MATERIAL
"MORE SAFETY PER DOLLAR"



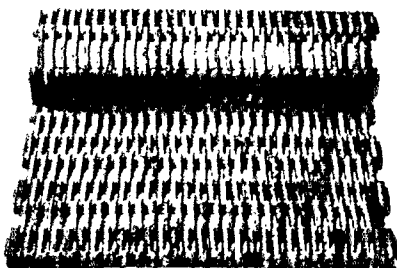
WHEELER LEG-SAFES

Wheeler Leg-Safes (Patent Applied for) combine Safety, Comfort and Service in a NEW and DIFFERENT way. Fully adjustable improved Safety fasteners, permit a snug fit on side, top and bottom, yet allow INSTANT RELEASE from any place along stay. See cut. Request for a trial pair involves NO obligation. Send for YOURS today. New and different.

F. H. WHEELER MFG. CO.
224-230 West Huron Street
CHICAGO - ILLINOIS

When writing advertisers, please mention NATIONAL SAFETY NEWS

DURABLE SAFETY MATS



STRAIGHT WEAVE

Safety and Comfort with Efficiency

Provide all the ordinary protection around the moving parts of machinery you may, there is still the hazard of slippery, wet floors. A comparatively small investment in Durable Safety Mats will give you this added insurance, so desirable. These

mats, with their thick, rubberized construction, also insure foot comfort, which naturally increases efficiency. Noise, too, is materially lessened.

Worth investigating, we believe, and further, we invite your investigation.

DURABLE MAT COMPANY

764 Miami Street
AKRON, OHIO

2924 16th Ave. S.W.
SEATTLE, WASH.

EASTERN SALES REPRESENTATIVES

THE BOYER-CAMPBELL CO.
Detroit, Michigan

PROTECTIVE EQUIPMENT CO.
Chicago, Ill.

INDUSTRIAL SAFETY SUPPLY CO.
Milwaukee, Wis.

VICTOR N. MARTIN SAFETY CO.
Toledo, Ohio

THE SAFETY EQUIPMENT SERVICE CO.
Cleveland, Ohio

AMERICAN ALLSAFE CO.
Buffalo, N. Y.

SAFETY FIRST SUPPLY CO.
Pittsburgh, Pa.

Safer



Fumigation

WINTER months are the most critical in fighting disease germs and their carriers. Safe and proper fumigation greatly lessen the possibility of disease spreading, or existing in your plant.

Safti-Fume, the Universal Safe Fumigant, kills germs, vermin and rodents. Disagreeable odors are prevented, for the pests are driven out of your buildings. Hearty endorsement has been given Safti-Fume by industries, railroads, steamship lines, etc.

Mail the Coupon Now.

SAFTI-FUME & CHEMICAL CO. INC.
522 Fifth Avenue
New York, N. Y.

BOSTON

BALTIMORE

ALSO OFFICES IN
PHILADELPHIA

HARRISBURG, PA.

SAFTI-FUME & CHEMICAL CO., INC.

522 Fifth Ave., New York, N. Y.

Please send me complete details of your service and various products.

Name.....

Company.....

Address.....

Position.....

When writing advertisers, please mention NATIONAL SAFETY NEWS

Announce Program for Ohio Safety Congress

ATENTATIVE program for the all-Ohio Safety Congress, to be held in Columbus, January 14, 15 and 16, has been arranged by the general committee on arrangements. At the opening session on Tuesday morning, January 14, at which Thomas P. Kearns, superintendent of the Division of Safety and Hygiene, will preside, Governor Myers V. Cooper will make the dedicatory address and Mayor James J. Cooper will extend the city's welcome to delegates. Wellington T. Leonard, chairman of the Industrial Commission of Ohio, will make the introductory address. C. E. Pettibone, president of the National Safety Council, will speak on "National Safety," and Isaiah Hale of the Santa Fe Railroad will discuss "Safety Inspiration."

At 6:30 p. m. there will be a dinner for employers and plant executives, with an outstanding inspirational speaker to be selected. Entertainment will be provided by C. A. (Sunny) Sundberg, a well known humorist of Columbus, Ohio. L. B. Webster, secretary of the Ohio Manufacturers' Association, will be toastmaster.

The general session Wednesday afternoon will be in charge of L. E. Myszander, member of the Industrial Commission, and will comprise four addresses. Two of them will be by speakers of recognized ability on safety topics—Miss Frances Perkins, Industrial Commission of New York State, and W. T. Blake, director of industrial relations for the State of Ohio.

Thursday morning the general session will be in charge of Thomas M. Gregory, member of the Industrial Commission. Five addresses will be given. Marcus Dow, manager of safety and personnel for Motor Transit Management Company, Chicago, will speak on "Safety in Motor Fleet Operation;" Dr. Harry Myers, personnel director for the Frigidaire Corporation, Dayton, Ohio, will discuss "Safety and Management;" Ethelbert Stewart, U. S. Commissioner of Labor Statistics, will speak on "The Value of Accident Statistics." The fifth address will deal with safety in the steel industry and will be presented by a representative of the industry.

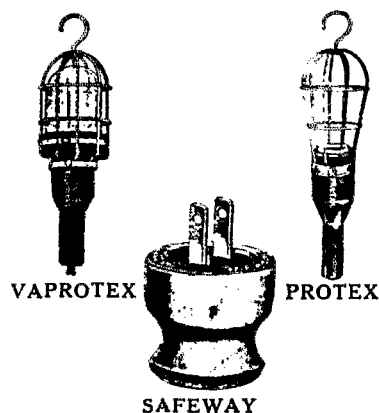
A get-together luncheon will conclude the conference. In addition to an inspirational address entertainment will be provided by the Red Arrow Quartet of the Pennsylvania Railroad. J. M. Woltz, safety director for the Youngstown Sheet & Tube Company, will be toastmaster.

Sectional meetings will be held as follows: Tuesday afternoon, Metals, Rubber, Pulp and Paper, Small Plants, Public Employees, Mercantile and Woodworking; Wednesday morning, Rubber, Foundries, Public Utilities, Laundries and Dry Cleaners, and Mines and Quarries.

To permit delegates at all sessions to attend, the Foremen's Safety Training Section will be held Wednesday evening.

In connection with the congress, the Employees' Publication Section will hold a regional meeting with Charles A. Ward of the Pure Oil Company as chairman.

PROTEX — VAPROTEX SAFEWAY



THREE safety items which you should not overlook. How many men in your shops have been burned or more dangerously injured thru electricity when using extension lamps? Why not eliminate this hazard on your properties by installing these "SAFETY FIRST" units.

PROTEX rubber handles not only protect the workman but they also act as a shock-absorber for the filament of the lamp bulb.

VAPROTEX vapor-proof lamps will also serve your purpose economically and safely. This unit also has a rubber handle to protect the workman against electric current. It can be dropped and thrown around without creating the hazards caused by arcs or lamp breakage, AND it is vapor-proof, dust-proof, and water-proof.

SAFEWAY rubber covered plugs are safe and unbreakable. A plug half-apart presents a real hazard. SAFEWAY plugs will reduce your maintenance costs and eliminate all hazards.

The safety and fire prevention features of these items are really worthy of consideration.

Daniel Woodhead Company
15 North Jefferson St.
Chicago, Illinois

Coming Events

Associations featuring safety in their programs are invited to send dates of meetings

January 11-18, Atlantic City, N. J.

American Road Builders Association, Annual Convention and Road Show. Secretary-Director, Charles M. Upham, National Press Building, Washington, D. C.

Jan. 14-16, Columbus, O.

Third Annual All-Ohio Safety Congress. Secretary, Thos. P. Kearns, Superintendent, Division of Safety and Hygiene, Industrial Commission of Ohio, Columbus, Ohio.

Jan. 22, Augusta, Me.

Second Annual Maine Safety Conference. Secretary, Charles O. Beals, Commissioner, Department of Labor & Industry, Augusta, Me.

January 27-30, Philadelphia, Pa.

American Society of Heating and Ventilating Engineers. Annual meeting. Secretary, A. V. Hutchinson, 29 W. 39th St., New York City.

March 8, Atlanta, Ga.

Southern States Safety Conference. George A. Diebert, manager, Atlanta Safety Council, 405 Chamber of Commerce Bldg., Atlanta, Ga.

March 24-25, Kansas City, Mo.

Fourth Annual Central States Safety Congress. F. C. Lynch, manager, Kansas City Safety Council, American Bank Bldg., Kansas City, Mo.

April 22, Dallas, Tex.

Southwestern States Safety Conference. C. J. Crampton, manager, Dallas Safety Council, Interurban Bldg., Dallas, Tex.

May 6, Madison, Wis.

Rock River Valley Safety Conference. A. E. Gillett, secretary, Association of Commerce, Madison, Wis.

May 27, Erie, Pa.

Northwestern Pennsylvania Safety Conference. S. M. Lippincott, secretary, Erie Safety Council, Commerce Bldg., Erie, Pa.

June 26-27, Duluth, Minn.

Lake Superior Mining Section, National Safety Council, Twelfth Annual Safety Conference. Secretary, F. S. Crawford, U. S. Bureau of Mines, Sellwood Bldg., Duluth, Minn.

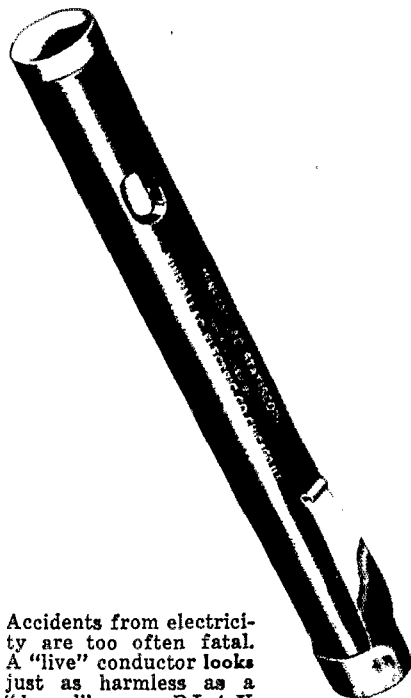
CORRESPONDENCE

HELMETS FOR MOTORISTS

Chicago, Ill.—We suggest that you feature in your publication the advisability of people wearing foot-ball headgears while riding in automobiles. This would be one method of preventing skull fractures.

JENS SMITH, Manager,
Chicago Branch, The Pacific Mutual
Life Insurance Co.

INDICATES "LIVE" CIRCUIT WITH SAFETY



Accidents from electricity are too often fatal. A "live" conductor looks just as harmless as a "dead" one. **PLAY SAFE.** Use the Statiscopes to determine the actual condition of the electrical circuit.

When placed with the brass cap near a live conductor, a glow will appear in the little window directly over the tube.

Before leaving the factory, each Statiscopes is carefully tested for Positive Operation. It is therefore recommended that a periodical test be made by the user on a known live conductor, as rough usage may affect the instrument.

The Statiscopes is designed to give indication of Alternating Current potentials of 2300 volts and up. Every industry needs it for the protection of its electrical workers. The price is so low and the instrument so handy (it can be carried in the breast-pocket) that no electrician can afford to be without it. Send in the attached coupon for complete details.

MINERALLAC ELECTRIC CO.
25 N. Peoria Street, Chicago, Ill.

MINERALLAC ELECTRIC CO.,
25 N. Peoria St., Chicago, Ill.

Please send us your circular on the Minerallac Statiscopes.

Name

Company

Address

When writing advertisers, please mention NATIONAL SAFETY NEWS

"There's many a Slip—" That Might Easily Have Been Avoided



RECORDS show six out of ten industrial accidents are caused by falls due to insecure footing on slippery surfaces. Severe injuries often result. Time is lost. Falls cost money.

Those who wear GRO-CORD non-skid standard, safety soles, never fear these dangers. The tough tire cords fused on end in real live rubber give a sure grip ***** The cords-on-end construction of GRO-CORD Soles protects the worker.



The Munson
Service Sole

There is no other sole like the GRO-CORD safety sole. The process of construction is fully protected by 11 patents. Look for the name GRO-CORD stamped on the bottom of each shoe. Ask your dealer for non-skid GRO-CORD Soles and Heels.

GRO-CORD

**NON-SKID
SOLES and HEELS**
LIMA CORD SOLE & HEEL COMPANY
Dept. 1-F. • Lima, Ohio

"Cord tire wear in every pair"

UNIVERSAL SAFETY PAYS DIVIDENDS FOR ALL!



(Pat. April 19, 1921)

The IPCO Collapsible Canvas Tool Bucket for transmission line work is one of our many products designed and manufactured for the Electrical Field.

In addition, linemen's gloves, glove containers, blankets, danger flags, portable danger signs, enameled signs, insulated brushes, insulated stools; all purposely designed for the electrical industry are illustrated and described in our new catalog.

Send for a copy of this catalog and get on our mailing list.

INDUSTRIAL PRODUCTS COMPANY
Manufacturers and Distributors
3729 Old York Road PHILADELPHIA, PA.

ACCIDENTAL DEATHS IN THE UNITED STATES

Compiled by the Public
Safety Division, National
Safety Council

November, 1929

FINAL figures on 1928 motor vehicle deaths, showing 27,966 persons killed, were somewhat higher than estimated, indicating with even greater certainty that 1929 will witness 30,000 motor vehicle fatalities.

November records submitted by cities and states with a population of 41,000,000 show an increase of two per cent over October in number of motor vehicle deaths, which meant a total of 2,770 lives lost during the month, or 92 daily. This figure is not quite as high as the figure registered in August, but exceeds that for any other month in 1929.

The proportion of pedestrian deaths was somewhat greater in November than in October, amounting to a five per cent increase. There was little change in the age-distribution of those involved, children being the victims in about one-fourth the total number of cases.

Motor Deaths Each Day

The following estimates are based on monthly reports to the National Safety Council by cooperating states and cities. Corrections are made as new information becomes available.

	1928	1929
January	79	75
February	65	70
March	64	71
April	67	74
May	74	76
June	71	81
July	76	84
August	76	93
September	81	81
October	80	87
November	88	92
December	90	

Honor Roll

Five cities with a population of more than 100,000 have reported that no motor vehicle deaths occurred in November:

Allentown, Pa.; Lynn, Mass.; Norfolk, Va.; San Antonio, Tex.; Wilmington, Del.

The following 17 cities of less than 100,000 population also reported perfect records:

Binghamton, N. Y.; Chelsea, Mass.; Colorado Springs, Colo.; Everett, Mass.; Fitchburgh, Mass.; Green Bay, Wis.; Lawrence, Mass.; Lincoln, Nebr.; Medford, Mass.; Moline, Ill.; New Britain, Conn.; Newton, Mass.; Roanoke, Va.; Shreveport, La.; Wheaton, Ill.; Wilmington, N. C.; Woburn, Mass.

Other Accidents

Home fatalities were about two-thirds as numerous as motor vehicle deaths in 32 cities reporting both. Asphyxiation deaths showed the largest increase. In October this cause was responsible for 18 per cent of the total number of home deaths while in

An Attractive Safety Shoe

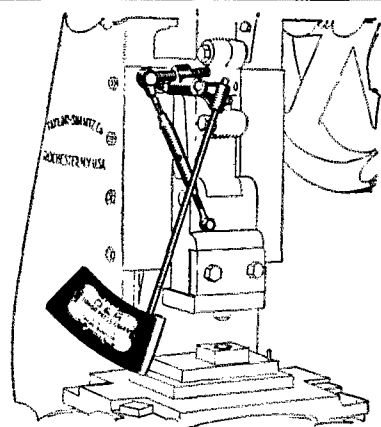
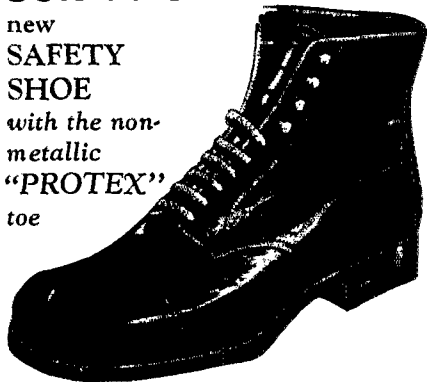
The Schiff Safety Shoe shown below is suitable for all kinds of industrial work, and for general wear. It is from the complete line of Schiff Safety Shoes, all of which have the non-metallic "Protex" toe. The entire toe area is protected when this safe, attractive, economical shoe is worn.

Write today for samples. Shipment will be made within 24 hours.

LEON SCHIFF & COMPANY
108 West Lake St., Chicago, Ill.

SCHIFF'S

new
SAFETY SHOE
with the non-metallic
"PROTEX"
toe



Unusual Protection—

for the power press operator at minimum cost.

The D & M Automatic Press Guard sweeps his hand out of danger, the shield prevents his reaching back of the guard again before the danger is entirely eliminated.

The simplicity of the D & M Automatic Press Guard and its complete efficiency on any make, style and size of power press make it a most profitable press accessory. Try one for 30 days at our expense. State manufacturer's name, and size and stroke of press and whether left to right or right to left hand swing is required.

D & M Automatic Press Guards can be ordered through your machinery supply house or direct.

Taylor-Shantz Company
486 St. Paul St. Rochester, N. Y.

November the percentage jumped to 24. This jump is striking evidence of the lack of precaution in using gas in homes.

Falls were less important as a cause of home deaths, being responsible for less than one-third of the total number in contrast to almost one-half in October. Eighty per cent of the victims were over 55 years of age.

In 32 reporting cities, industrial and other public accidents combined caused about two-thirds as many deaths as motor vehicle crashes in November. This is less than the year-round experience, in which these two types account for over 40 per cent of the total number of accidental deaths.

Decrepit Cars Obstruct Football Traffic

THE college boy's dilapidated car is no longer a joke when it obstructs traffic to and from the great football stadiums of the country. The American Motorists Association states that approximately one-half of all accidents occurring in football traffic are due directly or indirectly to defective equipment. This estimate is based upon surveys made on separate Saturdays when long lines of automobiles were moving toward or from different football stadiums.

"Generally speaking, Saturday football traffic moves with speed and order," says the Association. "Half of all the accidents and nearly all of the delays are occasioned by antiquated machines with neglected motors, defective brakes or broken steering apparatus. It was found in several instances that movement of a line of cars a mile long was delayed because some improperly maintained machine was unable to climb a medium grade or had broken down completely. Passing such a car, when passing was possible, was usually found to be dangerous, either because of traffic moving in the opposite direction or because of the impossibility of getting a clear view of the road ahead."



SAF-T-TOP



FIRST AID APPLICATOR

SAF-T-TOP filled with Mercuriochrome or Iodine feeds like a fountain pen, direct from a sanitary glass tip on the bottle.

APPLY direct to the injured part without fuss or smear. One hand is sufficient to open and use the bottle.

FIRST Aid men everywhere are recommending it for use, in and away from the plant. It is packed in a wooden case.

ECONOMICAL—one bottle will draw a line quarter of an inch wide and ten feet long. No evaporation or waste.

Write for a Sample

ROBERT A. BERNHARD
MFG. CHEMIST
153 ANDERSON AVE.
ROCHESTER N.Y.

SAFETY POSTER SERVICE



Producing a Safety Poster

*Some Sidelights on the Poster
Art Work of the Council*

By **RALPH MOSES**
Staff Artist N. S. C.

PRODUCING the art work for a poster, like everything else, must have a beginning, and the beginning of a poster is of course the "idea." Ideas are very elusive at times, but it is not the purpose of this article to discuss the difficulties of originating the subjects and wording. We will for convenience suppose we have the idea and so next busy ourselves with the process of putting this idea down in "black and white."

This is exactly how they are drawn, in black and white. Although



Fig. 1

the Council's printed posters appear in two or more colors, they are never drawn in color. The reason for this is that a black and white drawing is the most economical method of producing posters of this type.

In designing posters, simplicity and legibility must be the aim, so, in order to arrive at a definite plan, several small preliminary sketches are worked out. From these sketches it is possible to see just how the finished poster will look when printed.

Having hit upon the way of presenting the idea it is time to get

busy with paper, pen and ink, brush or wash and this brings up the subject of mediums.

As previously stated the posters are drawn in black and white. By that is meant the use of pen and ink, brush and ink, crayon or grays.

Figures 1, 2 and 3 represent the same subject drawn first in crayon, the second in pen and ink and the third in wash or grays.

When the drawing is finished, the next move is the pasting of a tissue flap over it. On this tissue flap, by the use of color, is indicated the parts of the illustration and wording which are to appear in color. Using this tissue as a guide, the engraver, working from the black and white drawing, produces two sets of plates. One for the black of the drawing and one or more for the color printing.

The plates produced by the engraver are known as zinc etchings or copper halftones, according to the kinds of illustrations they are made for. They are set up in the printing presses very much as type is set up, except that each plate is mounted on a large wooden block, whereas type is more often in separate pieces for each of the letters in hand-set or monotype composition, or for each line in linotype composition.

In the case of the ordinary flat-bed printing press, each poster is run through the press for the printing of each color separately. A one-

color poster goes through the press once; a two-color poster twice, and a three-color poster three times.

By the careful selection of transparent inks and by working out the drawings to suit, unusually attractive color combinations can be produced when one color is printed over another. For instance, yellow over blue gives green, red over blue gives purple, likewise, yellow over blue over red gives a pure black if



Fig. 3

the colors have been properly selected.

This use of color combinations in printing enables the production of posters which give the effect of as many as 12 or 14 colors but which are in reality produced from only 3 color plates. Such color work, however, complicates the art work, for the artist must know what colors to expect in the finished job when laying out his black and white drawing.

New Poster Catalog Coming

THE new 1930 catalog of National Safety Council posters is in process of development. It will be about twice as large as the 1929 catalog and will contain illustrations of all posters available at the time it is issued.

This new catalog marks a new stride toward greater accuracy and efficiency in filling orders for posters. It will enable you to see at a glance what posters will be available for your use and will make it possible for you to make definite selections of the older posters to use in conjunction with the newer ones as they are issued.



Fig. 2

POSTERS *for* FEBRUARY

Make your selection from these pages

ON THIS and succeeding pages are shown small single color reproductions of forty-one posters prepared for distribution during the current month. All of these posters will be available to members during the ensuing 90 days in any desired quantity.

Under the terms of membership each active industrial member is

privileged to order a certain number of posters during the year without extra charge. This yearly allotment is based upon the number of employees. It provides for 300 poster units for each \$25 of membership dues. A 9 by 12 poster counts as one unit, and a large two-color poster as four units. The following table shows the complete schedule of dues with allotments of poster units:

Employees	Dues	Units
1 to 50	\$12.50	150
51 to 150	25.00	300
151 to 500	50.00	600
501 to 1,200	75.00	900
1,201 to 2,000	100.00	1,200
2,001 to 3,000	125.00	1,500
3,001 to 5,000	150.00	1,800
5,000 to 10,000	200.00	2,400
10,000 or more	250.00	3,000

Extra posters will be supplied at cost, under either of these plans:

Plan 1. The member authorizes us to bill him for \$5 for which we establish a credit of 300 poster units to be ordered as needed.

Plan 2. The member authorizes us to bill him for each separate shipment of excess posters at the following prices:

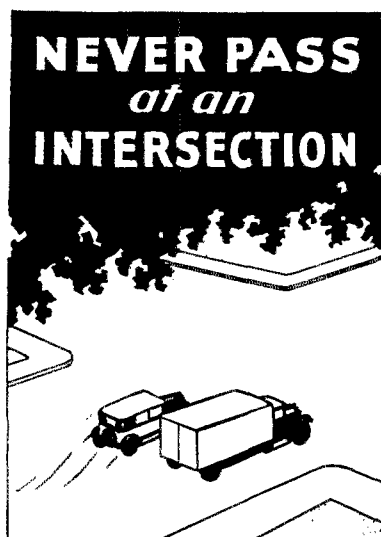
	Small	Large
First 100	\$4.00	\$6.00
Additional quantities, each	.01	.04

We recommend that members review the miniature illustrations each month, select the posters they

desire and place their order, using our special form, which will be sent on request.

Poster Catalogue

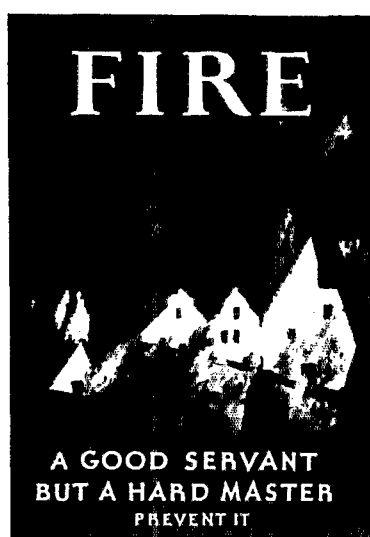
In addition to 40 posters published each month, we have selected 360 posters issued in past years and which have proved so popular that they are carried in stock. Ask for our 1929 Poster Catalogue.



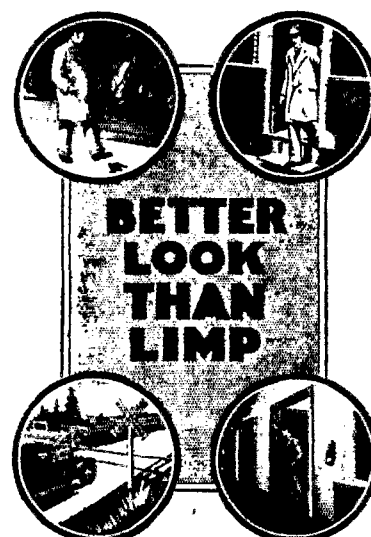
2674-B 17x23 inches 4 units
2675-C 25x38 inches 8 units



2639-B 17x23 inches 4 units



2640-B 17x23 inches 4 units



2637-B 17x23 inches 4 units



2641-B 17x23 inches 4 units
(Three Colors)

Electrotypes may be purchased from the National Safety Council for \$2 each

The Eyes Have It!



2634-B 17x23 inches 4 units

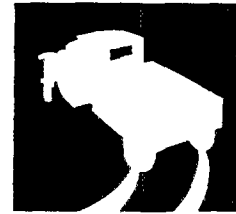
THE WRONG WAY
IS DIFFICULT AND
DANGEROUS



SAFER
AND EASIER

2638-B 17x23 inches 4 units

CAREFUL DRIVERS



SELDOM SKID

2635-B 17x23 inches 4 units

ACCIDENTS
ARE
SOMEONE'S
FAULT
DON'T LET
THEM BE
YOURS

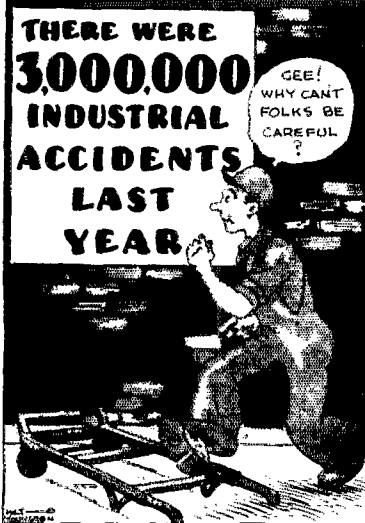


2644 9x12 inches
(Three Colors) 1 unit



HE NEGLECTED TO
BE CAREFUL

2638-B 17x23 inches 4 units



2643 9x12 inches
(Three Colors) 1 unit

THIS 'HORSE' IS
DEADLIER THAN
A BRONCHO!



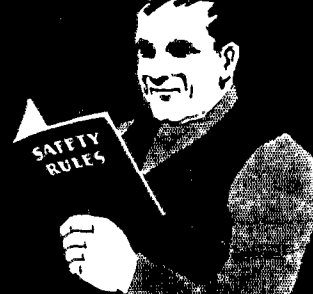
INSPECT EQUIPMENT.

2646 9x12 inches 1 unit



2642-D 12x18 inches
(Three Colors) 2 units

SHORTY SEZ:



CONCENTRATE ON SAFETY
OR ACCIDENTS MAY
CONCENTRATE ON YOU

2645 9x12 inches 1 unit

Electrotypes may be purchased from the National Safety Council for \$2 each



2650-D 12x18 inches 2 units



2659 9x12 inches 1 unit



2658 9x12 inches 1 unit



2655 9x12 inches 1 unit



2667 9x12 inches 1 unit

**Good Piling
is good safety**



A fine set-up



For an accident

2668 9x12 inches 1 unit

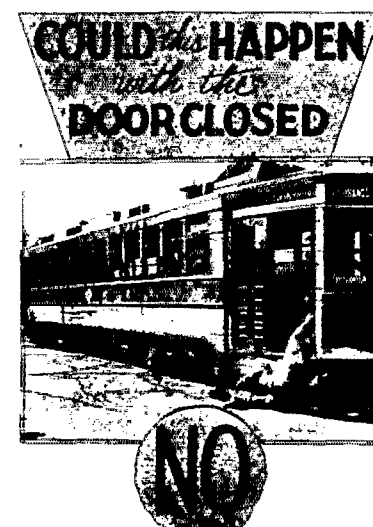


2672 9x12 inches 1 unit

**This Motorman
Was Alert**



2669 9x12 inches 1 unit



2670 9x12 inches 1 unit

Electrotypes may be purchased from the National Safety Council for \$2 each

KEEP YOUR DISTANCE



*Always expect the
unexpected
from the driver
ahead*

2657 9x12 inches 1 unit

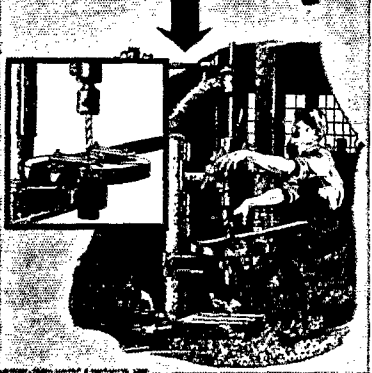
CORRECT



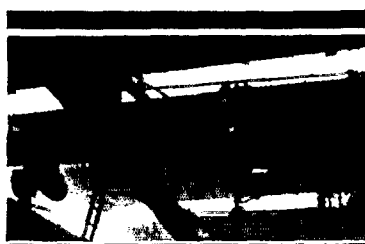
*When Opening Valves
Aim Gauge & Reducing Valve
AWAY from YOU*

2652 9x12 inches 1 unit

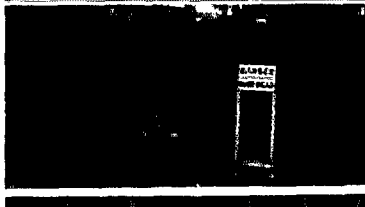
Better Use A Clamp



2661 9x12 inches 1 unit

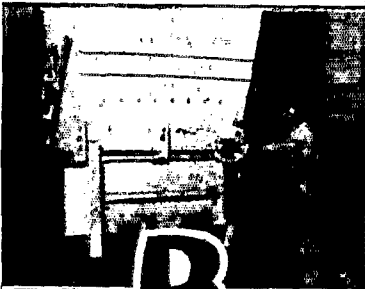


**Good Protection
For Those Below**



2651 9x12 inches 1 unit

Pinched



**B
Careful!**

2648 9x12 inches 1 unit

No Place For Smokers



**Keep Them
AWAY**

2664 9x12 inches 1 unit

CRANEMEN ATTENTION



**make sure
the way is
clear**

2649 9x12 inches 1 unit

*He used the power
To test the die
Then and there
He lost an eye*



*A half inch
Splinter flew off
Here*

2662 9x12 inches 1 unit

Tie Hose With Cord Not Wire



2663 9x12 inches 1 unit

Stop the Saw



**It's the safe way
to remove sliver**

2647 9x12 inches 1 unit



Death Lurks in Rusty Nails

2654 9x12 inches 1 unit



2673 9x12 inches 1 unit



**Hold dies like
this and save
fingers**

2666 9x12 inches 1 unit



**if you keep
alert and protect
your hands**

2656 9x12 inches 1 unit

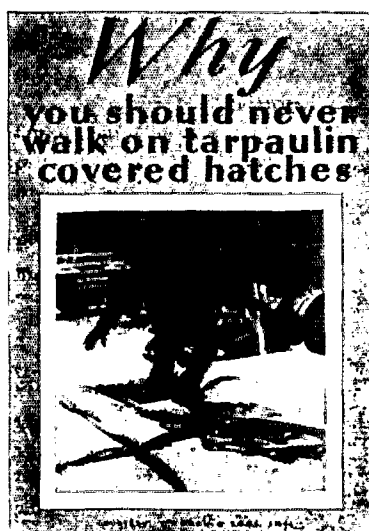


**When breaking
down tire core**
1. KEEP HAND OFF
CONTROLLER
2. KEEP MACHINE IN
LOW OR SECOND SPEED

2671 9x12 inches 1 unit



2665 9x12 inches 1 unit



2660 9x12 inches 1 unit



2653 9x12 inches 1 unit

Electrotypes may be purchased from the National Safety Council for \$2 each

Justrite SAFETY DEVICES

REG. U. S. PAT. OFF.

Are Explosion and Fire Safeguards

THESE are the Safety Products for which you have been looking. Give better safety and protection against fire and explosions.

JUSTRITE OILY WASTE CAN for factories, garages, printing plants, etc.

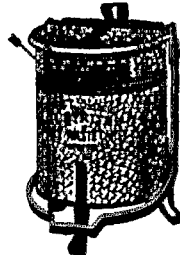
JUSTRITE SAFETY NON-EXPLOSIVE CANS for holding gasoline, benzine, turpentine, ether and other volatile liquids.



Opens with the Foot
Closes Automatically

Avoids the paying of large compensation and loss of time—
Reduces your insurance rates—
Encourages cleanliness and neatness among your employees—
Protects your property. Labeled by the Underwriters' Laboratories, Inc., and Factories Mutual Insurance Companies. Send today for Circular and Prices.

Justrite Mfg. Co.
2087 Southport Ave., Chicago



AUTOMATIC OILY WASTE CAN



NON-EXPLOSIVE CAN
Made in sizes from 1 pint to 5 gallons

in the coal mining industry through accidents is estimated at \$188,000,000. The estimated annual financial loss above mentioned represents an additional cost of about 14 cents per ton of coal mined.

In the year under consideration, 2,518 men were killed by accidents in and about coal mines. It is estimated that about 181,300 accidents in coal mines involving loss of time occurred in the period studied. The average number of days lost per accident, including fatal accidents and permanent total disability cases, figured at 6,000 days loss each, is about 117 days, which means that a total of 21,212,100 days are lost annually due to coal-mine accidents. If the total compensation paid in case of all accidents averages one-ninth of the wages lost, the coal miners of the country annually lose about \$124 per man employed in direct wage loss.

The loss to the coal-mine operator through accidents is estimated to be at least that of the employee, but is not so easy to figure directly. In one way or another he pays the compensation to the miner either directly or through an insurance company. He pays for interruptions of production due to accident, for replacement of workmen and for breaking in new men, for damage or destruction of property, for disturbed industrial relations likely to result from accidents, for reduced morale and efficiency of employees, for medical and hospital care, for court costs of settling disputed cases, and probably for other items.

In the metal mining industry, in the same year, 430 men were killed and 30,350 men received lost-time but non-fatal injuries as a result of accidents. There was an average of 114 days lost time for each of these fatal and non-fatal injuries, again computing a fatality as 6,000 days lost time. This is equivalent to 3,523,944 days lost due to accident, or at \$5 per day per man, to a wage loss of \$17,619,720. Again deducting one-ninth of this figure for compensation paid, the metal miner loses in wages annually about \$15,700,000, or about \$122 per individual. This average loss per individual includes the cost of fatal accidents reckoned at 6,000 days or \$30,000, but even if the loss in time due to fatal accidents be deducted, the average cost of each individual metal miner each year for non-fatal accidents is about \$32.

Estimating the loss to the metal-miner employer as about the same as that to the employee, the annual cost of metal-mine accidents to the employer is about \$15,700,000 and to employer and miner is \$31,400,000.

Redteco

- It commands respect of the public.
- It inspires confidence in your workmen.
- It is Redteco (the new warning signal for city use) and Yelteco—the new signal for highways.

May we send you a folder with all details?

THOS. E. COLLINS & CO.
812 Olive St.
St. Louis, Mo.

For City Use

For Highways

HI-LITE
TRAFFIC GUIDES

Factories Streets
Send for Samples, Particulars and Prices

The Challenge Machinery Co.
Grand Haven, Michigan

Mine Accidents Cause Big Loss to Industry

MINE accidents in the United States, in addition to causing deplorable loss of life, are extremely expensive to mining companies and to miners, says the United States Bureau of Mines, Department of Commerce. In a recent typical year, coal mine accidents caused a loss to coal miners in wages of \$106,060,000, it is estimated by E. H. Denny, district engineer, who has made a statistical study of the subject. The total annual financial loss to employers and employees

When writing advertisers, please mention NATIONAL SAFETY NEWS

Murray Safety Slings



FOR SAFETY USE

Murray Safety Slings

They Are Endless and Flexible.

Write for Folders.

Murray Safety Sling Co., Inc.

Manufacturers of Murray Safety Slings
and
Murray Safety Chairs.

34 Water St., Pittsburgh, Pa.

AMPCO NON-SPARKING TOOLS



SPARKS are often responsible for costly fires—explosions—loss of life and property. These accidents are unnecessary—they are greatly lessened by Ampco Non-Sparking Tools. Ampco Tools are made of extremely tough and long-wearing bronze, having all the physical characteristics of steel.

There are standard Ampco Tools for every Industry.

Don't Take Chances—Send for Catalog.

American Metal Products Co.

1346 Burnham St.
Milwaukee, Wisconsin

Hazards of Mechanical Refrigeration

(Continued from page 38)

the theory that their health is more likely to be menaced at workshops than at home.

Leaks of some sort develop in every system of piping known, whether it be for conducting water, oil, or gas. The leaks may be slow in making their appearance, but the sanitary engineer and health officer must concern himself with what the conditions will be 20, 30 or 40 years in the future, when perhaps the income available for upkeep and repairs to the building will be reduced.

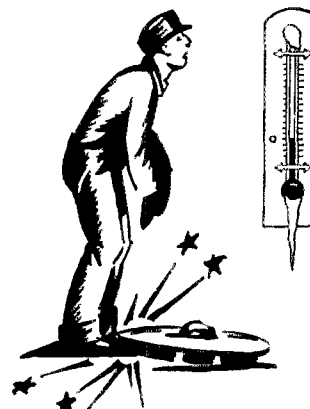
To remove the health hazard, the amount of refrigerant that can leak into spaces used for domestic habitation must be strictly limited and a distinctive odor or irritating property must be given to it, so that ample warning of leakage may be given. A local manufacturer has built, at our suggestion, a multiple-unit system of refrigerant piping within a secondary gas-tight system, which is vented to the atmosphere.

The difficulties of applying a test to determine the tightness of a refrigerating system as ordinarily installed at the present time are not easy to overcome. The test is time-consuming and deprives the occupant of the use of his ice box while the test is being applied. With a gas-tight secondary piping system surrounding the refrigerant lines, with the compressor, receiver and condenser located in a separate machinery room, and with both the secondary system and the machinery room vented to the outside air, a large factor of safety, as compared with present and past practice, is provided. Tests of the tightness of the secondary system under pressures of as much as two pounds per square inch could easily be applied and that pressure would quickly discharge the contents of the primary system into the outside air, should a leak occur. The remaining danger point is the evaporator, but it is believed that good design and workmanship can take care of all reasonable possibility of leakage there.

We do not yet feel as certain about the possibility of providing a suitable odor to give warning of the presence of an escaping refrigerant or of adequate means for detecting the presence of the latter in very minute quantities, but it is hoped that research will ultimately solve these problems.

In taking these steps, Chicago has not tried to set up a distinct code for this city and have manufacturers make one apparatus for us, another for New

FOOT ACCIDENTS INCREASE IN COLD WEATHER



A WORKMAN whose hands are numb with coldness, carrying heavy materials, probably will have some crushed toes during the winter months unless he has some kind of foot protection.

Equipped with Sankey Guards, your employees working inside or out—are not worried about foot injuries, for these 16-gauge steel or rigid-lum guards protect their feet against 300 foot pounds—the maximum load a man can carry. The instep as well as the entire toe area is protected.



Send the coupon today

ELLWOOD SAFETY APPLIANCE COMPANY

ELLWOOD CITY, PA.

ELLWOOD SAFETY APPLIANCE CO.
ELLWOOD CITY, PA.

Please send us, on memorandum invoice,.....
pairs Rigidum.

.....pairs Steel, Sankey Corrugated Foot Guards.
It is understood that these guards may be returned
without obligation if they fail to meet our require-
ments.

Name of Firm.....

Street Address

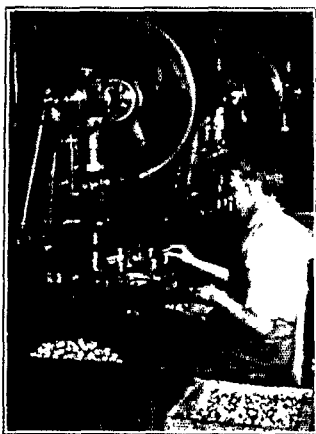
City and State.....

Attention of

Industrial Eyesight Surveys

Promote
Speed and Safety

80% of your activities are directed by your eyes. Increased vision gives **SPEED** and **SAFETY** to your men.



Half blind men cannot judge distance accurately. Assign operation of punch-presses, cranes, and motor vehicles to men you **KNOW** have

Vision in Both Eyes

Our Surveys discover unsafe eyes and improve the defective ones. We give you detailed information on each employe enabling you to properly assign him.

NO INTERFERENCE IN PLANT ROUTINE.

Hundreds of Satisfied Clients. Every One A Reference.

SEND FOR OUR BOOKLET,
"EYES OF INDUSTRY."

**Eyesight Survey
Corporation**

General Offices
**4196 Manchester Avenue
St. Louis**

York, and still another for every city of importance. On the contrary, in the proposed Kegel ordinance, submitted to the City Council Committee on Public Health by our Health Commissioner, Dr. Arnold H. Kegel, an attempt has been made to set up a reasonable and proper standard, without a lot of detailed prohibitions to stifle initiative and deaden inventiveness.

As more knowledge becomes available regarding the effects of refrigerants upon human beings, or as new refrigerants come into use, the standard may require modification from time to time. We believe that we have hit upon the proper means of safeguarding the public by setting a standard and leaving it to the ingenuity of the manufacturers to meet that requirement. We are confident that they will do it.

Urges Proper Illumination of Stalled Vehicles

TRUCKS and other vehicles stalled on the roadway at night must be adequately illuminated or they form serious accident hazards, according to G. S. Laurence, of Motor Freight, Inc., Detroit, a large commercial vehicle fleet operating concern. Mr. Laurence, who is a member of the new Street and Highway Traffic Section of the National Safety Council, says that such blocking of the public highway by broken-down trucking equipment has resulted in many serious accidents by being run into by passenger vehicles, buses, and other trucks.

He says that the ordinary vehicle lights are not adequate to distinguish such equipment from moving vehicles. The hazard is particularly great in foggy or rainy weather.

In Michigan common carriers are required to place torches upon the roadway some distance to the front and rear of any stalled motor equipment. Though not classed as a common carrier, Motor Freight adopted the idea voluntarily and each of the company's trucks is equipped with two such torches. Their use has been most effective in eliminating this kind of collision accident involving their equipment.

But, Mr. Laurence warns, a real supervisory and educational job remains after the torches have been supplied. They have no value except as they are used conscientiously by the drivers. He strongly urges that every commercial vehicle fleet operator emphasize to his employees the need for adequately protecting other drivers from the hazard of collision with their equipment when it is stalled upon the public highway.

Bull Dog Safety Shoes

The Construction in detail is shown in our new pamphlet, which will be mailed upon request. Send for it. You will be interested to see how these shoes are made.

J. D. MacLAURY
Distributor

3030 Euclid Avenue
CLEVELAND, OHIO

Clear light reduces danger

ACCIDENTS to machine workers are often attributable to faulty or inadequate lighting facilities. By cleaning electric light bulbs and globes regularly with Oakite, you can lessen the danger presented by dirty, film-obscured lamps.

This is just another one of the many uses of non-inflammable, non-explosive Oakite that helps to promote safety in the industrial plant. Use this remarkable material wherever safe, thorough cleaning is required. It removes all signs of grease, dirt, stains and soot, thoroughly, economically.

Ask our nearest Service Man to tell you about safe Oakite materials and methods. Phone or write us and he will call.

Oakite Service Men, cleaning specialists, are located in leading industrial centers of U. S. and Canada

Manufactured only by
OAKITE PRODUCTS, INC.
14D Thames Street, New York, N. Y.

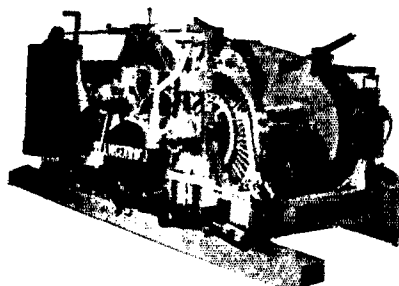
OAKITE
Industrial Cleaning Materials and Methods

WITH THE MANUFACTURER

Manufacturers are invited to send in announcements of new products, or improved special features. Only items which can be considered as "news" to our readers will be published

AN AUTOMATIC BRAKE TO GUARD HIGH SPEED HOISTS

To assist in minimizing the number of accidents resulting from dropping loads, the Lidgerwood Manufacturing Company,



Elizabeth, N. J., has announced a new type high-speed steel erector's hoist, equipped with emergency brakes. The brakes are automatically set in case of either power failure or neglect of the lever man to keep his feet on the brake service levers. This hoist is built in the 100 h.p. size, duty 9,000 pounds at 300 feet per minute, for operation with three-phase, 60-cycle alternating current at 220 volts.

As in the older hoists, the new type is equipped with hand service brakes controlled by foot levers. In addition, emergency brakes are fitted to each drum, and will set automatically in the event of power supply failure.

Other features of the machine are conventional. The drive between motor and hoist is a silent chain belt enclosed in an oil-tight casing. All gearing is of cut steel protected by guards. Wiring is enclosed, and resistors are of the non-breakable edgewound type.

AMERICAN LAFRANCE HAS NEW FIRE APPARATUS SERIES

Announcement of a new "Master Series" motor fire apparatus has been made by the American-LaFrance and Foamite Corporation, Elmira, N. Y.

The series is composed of a new line of motor fire apparatus, featuring two pumping engines known as the "Metropolitan" and "75," a new city service truck and a complete line of aerial trucks.

Outstanding among the general improvements in the line are: left-hand drive instead of right hand; new nut and screw steering gear; new pressed steel, heat treated frames; and mechanical four-wheel brakes.

ODORLESS DEODORANT AND DISINFECTANT

Auralite, a new liquid deodorant and disinfectant, has been placed on the mar-

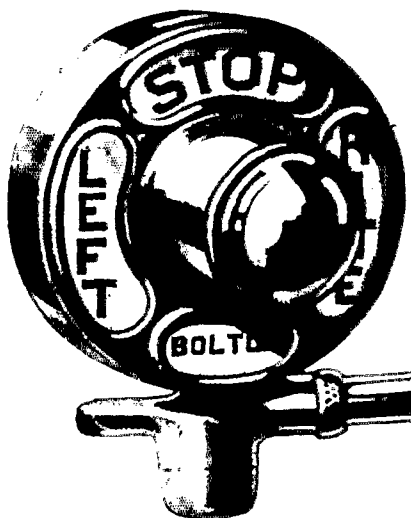
ket by the Auralite Manufacturing Company, 1413 Clybourn Avenue, Chicago. The new product is used only when diluted in water, usually to the ratio of two tablespoonfuls of Auralite to one gallon of water.

When Auralite makes contact with the air, its manufacturers claim that it releases free oxygen. This is called "liquid ventilation." One of the outstanding features of Auralite is that it is odorless.

* * *

BOLTON INTRODUCES NEW AUTO SAFETY SIGNAL

The Bolton Auto Safety Signal Company, Chicago, has placed a new automobile safety signal on the market. The device serves also as a spotlight and mirror.



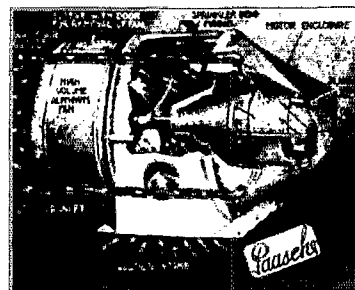
The outstanding features of the signal are found in its three colored lights which are flashed by means of switch buttons located conveniently at the left of the steering wheel. By moving one of the switch buttons, the driver indicates whether he will turn right or left, or whether he will put the car in reverse or stop.

* * *

PAASCHE MAKES NEW DEVELOPMENTS IN VENTILATING UNIT

Development of a cold air inlet and warm air outlet, sprinkler head funnel and complete motor enclosure is announced by the Paasche Airbrush Company, Chicago, in the manufacture of their "Explosion Proof" ventilating unit. This unit may be mounted on the roof

of a building, on the outside wall of a building with the motor outside, or on the top of both sides of the booth.



The new-type ventilating unit is said to lessen the fire hazard of the open motors with belt drive. It has a special designed motor with sealed sleeve bearings, and a motor housing designed so the inlet opening may be placed in horizontal or vertical position, with inlet to right or left, top or bottom.

* * *

NEWS ITEMS

The Lincoln Products Corporation of 31 Fulton Street, Newark, N. J., have been appointed distributors for jacklifts, arc-welded platforms and stackers in northern New Jersey by the Lewis-Shepard Company of Boston.

* * *

Four new bulletins, containing photographs and general descriptive matter of new products, have been released by the Mine Safety Appliances Co., Pittsburgh. Bulletin No. 90 describes the Davis permissible single-shot blasting unit, miner's individual shot-firing battery and Burgess batteries. The Paulin altimeter, type A-1, Tycos barometer and Paulin precision barometer are described in Bulletin No. 52, while Bulletin No. 113 has to do with the F-M continuous flammable vapor indicator. Bulletin No. 27 describes the McCaa oxygen breathing apparatus, half-tour type. Write for your copy.

* * *

The Industrial Products Company, 3729 Old York Road, Philadelphia, has issued a new bulletin illustrating and describing extension hand lamps, insulated "pin type" plugs and lamp guards. Copies of this bulletin will be sent on request.

* * *

Statements published on this page are based on the claims of the manufacturer. While the National Safety News cannot guarantee these statements, they are believed to be accurate.

KESTER FLUX-CORE SOLDER

FLUX IN POCKETS SOLDER WILL

Ready to Use

Needs only Heat

QUICK!

Quick, simplified, safe operation—no acid-pots to spill and burn. Quick savings in time and money on every phase of industrial production.

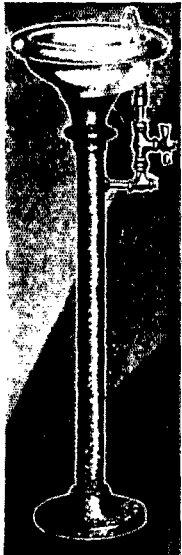
Our experimental and research department will be glad to analyze the soldering requirements of your particular industry, and supply you with a special solder expressly designed for your specific needs. The enormous Kester line of special industrial solders is perfectly equipped to give you maximum profits from your manufacturing processes. Avail yourself of this service; it imposes no obligations.

KESTER SOLDER CO.
4206 Wrightwood Ave.
CHICAGO, ILL.
Established 1899
Formerly Chicago Solder Co.

KESTER
FLUX-CORE
SOLDER

ACID-CORE ROSIN-CORE PASTE-CORE
METAL MENDER RADIO SOLDER

INSTALL R-S FOUNTAINS



Rundle - Spence Drinking Fountains in your plant or offices will invigorate your employees. These bubblers will provide good, clean, fresh, drinking water at all times.

Every one must drink sanitarily from R-S Vertical Fountains—lips cannot touch the nozzle—this feature safeguards the health of your workers. Let us send you an illustrated catalog. Write today.

Rundle-Spence Mfg. Co.
65 Fourth St., Milwaukee, Wis.

NEW MEMBERS National Safety Council

November 15-December 12, 1929

Abbott Laboratories, North Chicago, Ill.
Allied Automobile Owners Assn., Inc., Brooklyn, N. Y.
American Legion, The, Fowler, Ind.
American Surety Co. of New York, New York City.
Associated Aviation Underwriters, New York City.
Atlantic Gypsum Products Co., Boston, Mass.
Bolton Auto Signal Co., Chicago, Ill.
Boston Food Products Co., Brighton, Mass.
Central West Coal Co., Menominee, Mich.
Committee to Study Compensation for Automobile Accidents, Philadelphia, Pa.
Electrical Workers' Union, Detroit, Mich.
Etowah County Safety Council, The, Gadsden, Ala.
Eureka Vacuum Cleaner Co., Detroit, Mich.
Fidelity & Casualty Co. of New York, The, New York City.
Free Public Library, New Haven, Conn.
Givaudan-Delawanna, Inc., Delawanna, N. J.
Glennie, Chas. D., Lawrence, Mass.
Glens Falls Indemnity Co., Glens Falls, N. Y.
Great Falls Traffic Div. of Police, Great Falls, Mont.
Hagar Straw Board & Paper Co., The, Cedarville, Ohio.
Hormel, Geo. A., & Co., Austin, Minn.
Houston Chamber of Commerce, Houston, Texas.
Houston Electric Co., Houston, Texas.
Industrial Steel Castings Co., The, Toledo, Ohio.
Institute for Industrial Hygiene & Safety, Leningrad, U. S. S. R.
Kentucky Consolidated Stone Co., Inc., Louisville, Ky.
Keystone Portland Cement Co., Bath, Pa.
Louisiana Ice Manufacturers Assn., New Orleans, La.
Marine Office of America, New York City.
Marmole Engineering Corp., Bloomfield, N. J.
Merchants Despatch Transportation Co., East Rochester, N. Y.
Nassau Safety Council, Mineola, L. I., N. Y.
Paasche Airbrush Co., Chicago, Ill.
Paper Calmenson & Co., St. Paul, Minn.
Police Dept., Auburn, N. Y.
Prairie Farmer, Chicago, Ill.
Sharples Solvents Corp., The, Belle, W. Va.
Southwestern Ice Mfgs. Assn., Houston, Texas.
State Highway Police, Wilmington, Dela.
Union Limestone Co., Hillsville, Pa.
Virginia Jellico Coal Co., Clairfield, Tenn.
Wallace Barnes Co., Bristol, Conn.
Wier Long Leaf Lumber Co., Wiergate, Texas.

Diamond Disc



(Pat. Jan. 21, 1919)

Respirator

MORE workmen are acquiring the Diamond Disc Respirator habit, for it is equipped with a sponge in pocket arrangement, which makes it useful when encountering dust fumes and light gases.

The Diamond Disc Respirator is small and compact, and is easily carried in the pocket. Its comfort is another feature that should receive consideration.

Manufactured by

The Hygeia Respirator Co.
308 East 94th St.; New York City
Sold by Safety Supply Houses

Regarding Electric Shock

The Hard Boiled Hat acts as an insulator to electric currents. This in addition to head protection from blows. The Hard Boiled Hat is made by a patented process to give head protection. It is sturdy, a non-conductor of electricity, acid and waterproof.

Details on request

BULLARD-DAVIS, Inc.

E. D. BULLARD CO.

275 8th St., San Francisco, U.S.A.
67 Wall St., New York
Mexican Distributor
Mine & Smelter Supply Co.
El Paso, Tex.



When writing advertisers, please mention NATIONAL SAFETY NEWS



A QUESTION

What if the boiler plate
should slip?

The answer would no doubt be recorded in your lost time ledger.

Never Slip Safety Clamps

Insure safety to men and material. No time lost in adjusting the hold or forming a balance. The corrugated jaws clamp the boiler plate with a certainty, they cannot slip.

Made for horizontal and vertical lifting. Requires but one pair of sling chains instead of four as necessary with ordinary grip.

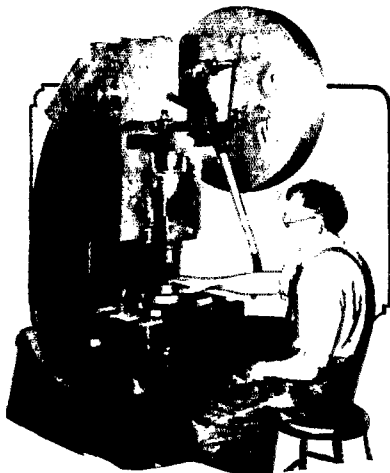
Awarded Gold Medal Second American Exposition of Safety and Sanitation, Auspices American Museum of Safety, 1914. Approved by Industrial Board of Pennsylvania.

Write for details

Never Slip Safety Clamp Co.

51 East 42nd St., New York

Speed and Safety



For Punch Press Operators

Avail yourself today of our 30-day free trial offer on our well-known punch press guard. Over 14,000 already in use. Attached in one hour. No adjustments when changing dies.

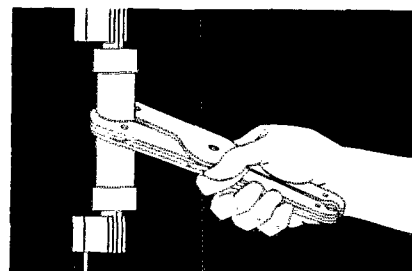
Safe—because the Guard sweeps the entire length of the Bolster Plate on half the downward stroke of punch. This means that both hands of the operator are protected.

The Guard returns beyond the center of the Ram on half the upward stroke. This allows the operator to feed fast. That's speed.

WIESMAN MANUFACTURING CO.
31 South St. Clair Street, Dayton, Ohio

Index to Advertisers

Abbott Laboratories	8
Acme Steel Co.	72
American Abrasive Metals Co.	7
American Allsafe Co.	77
American-LaFrance & Foamite Corp.	37
American Mason Safety Tread Co.	8
American Metal Products Co.	97
American Optical Co.	104
American Telephone & Telegraph Co.	43
Angle Steel Stool Co.	66
Bernhard, Robert A.	89
Bullard-Davis, Inc.	5-35-47-100
Burroughs Wellcome & Co. (U. S. A.), Inc.	41
Carter-Lockard Co.	61
Central Iron & Steel Co.	69
Challenge Machinery Co.	96
Chicago Eye Shield Co.	69-84
Chippewa Shoe Mfg. Co.	71
Collins, Thos. E. & Co.	96
Diener Co., Geo. W.	68
Duff-Hall Goggle Service.	7
DuPaul-Central Optical Co.	75
Durable Mat Co.	86
Ellwood Safety Appliance Co.	97
Endicott Corp.	73
Erdle Perforating Co.	83
Eyesight Survey Corp.	98
Finnell Systems, Inc.	65
Fyr-Fyter Company	67
Glade Manufacturing Co.	83
Harrington & King Perforating Co.	65
Hellos Manufacturing Corp.	78
Highway Service, Inc.	77
Holcomb Safety Garment Co.	74
Hygeia Respirator Co.	100
Hynson, Westcott & Dunning	79
Industrial Products Company.	88
International Shoe Co.	57
Justrite Mfg. Co.	96
Kester Solder Co.	100
Kidde & Co., Walter.	49
Kindy Optical Co.	80
Klein & Son, Mathias.	58
Lakeside Manufacturing Co.	53
Lima Cord Sole and Heel Co.	85
Linemen Protector Co.	82
MacLaury, J. D.	98
Mine Safety Appliance Co.	32-33
Mineralac Electric Co.	87
Multiple Sealing Corp.	55
Murray Safety Sling Co.	97
McDonald Engineering Corp.	76
Never Slip Safety Clamp Co.	101
Nissly, Walter S., & Co.	71
Oakite Products, Inc.	98
Paasche Airbrush Co.	70
Pangborn Corp.	62
Patent Scaffolding Co.	63
Protectoseal Co.	56-80
Pulmosan Safety Equip. Co.	3
Pyrene Manufacturing Co.	61
Reece Wooden Sole Shoe Co.	101
Reznor Mfg. Co.	81
Royal Metal Manufacturing Co.	62
Rundle-Spence Mfg. Co.	100
Safety Appliance & Machine Co.	85
Safety Clothing Co.	84
Safety Equipment Service Co.	Back Cover
Safety First Supply Co.	Inside Back Cover
Safety Fumigant & Chemical Co.	86
Schiff & Co., Leon	89
Sharp & Smith	69
Society for Visual Education	4
Standard Safety Equip. Co.	Inside Front Cover-67
Stonehouse Signs, Inc.	79
Sulpho-Napthol Co.	75
Taylor Chain Co., S. G.	73
Taylor, Halsey W., Co.	82
Taylor-Schantz Co.	89
Thompson Electric Co.	80
Trico Fuse Mfg. Co.	101
Union Carbide Sales Co.	51
Wall Mfg. Supply Co., P.	60
West Disinfecting Co.	45
Wheeler Mfg. Co., F. H.	85
Wiesman Mfg. Co.	101
Williams Jewelry & Mfg. Co.	63
Williamsport Wire Rope Co.	2
Willson Products, Inc.	1
Woodhead, Daniel, Co.	87
Wright-Austin Co.	64



This Way You're Safe

When you pull fuses like this, instead of with bare hands, you'll not suffer with shocks, burns, infection, blindness, or possible death.

Equip fuse boxes and switch boards with



Fuse Pullers



Genuine shock-proof horn fibre—4 sizes

Ask your jobber or write

TRICO FUSE MFG. CO.

1095 McKinley Ave.

Milwaukee, Wis.

Reece's Wooden Sole



Safety Shoe

For Foundry work, oil refineries, auto factories, steel mills, creamery and dairywork these shoes are unsurpassed for protective work.

**REECE
WOODEN SOLE SHOE
COMPANY**
Incorporated
Columbus, Nebraska

The BUYERS' SERVICE

- A**
- Accident Prevention Service**
National Safety Council.
- Abrasives**
Pangborn Corporation.
- Air Conditioning Equipment**
Pangborn Corporation.
- Anemometers**
Mine Safety Appliances Co.
- Aprons**
American Allsafe Co.
Holcomb Safety Garment Co.
Industrial Products Co.
Mine Safety Appliances Co.
Pulmosan Safety Equipment Co.
Safety Clothing Co.
Safety Equipment Service Co.
Safety First Supply Co.
Wheeler Mfg. Co., F. H.
- Arm Protectors**
Bullard-Davis, Inc.
Holcomb Safety Garment Co.
Mine Safety Appliances Co.
Safety Clothing Co.
Safety First Supply Co.
Wheeler Mfg. Co., F. H.
- B**
- Badges and Buttons**
Mine Safety Appliances Co.
Williams Jewelry & Mfg. Co.
- Barrels, Shop**
Diener Co., Geo. W.
- Belt Shifters and Handlers**
Resnor Mfg. Co.
Surtly Mfg. Co.
- Belts—Linemen's**
Bullard-Davis, Inc.
Industrial Products Co.
Mine Safety Appliances Co.
Klein, Mathias & Son.
Safety First Supply Co.
- Belts—Safety**
American Allsafe Co.
Bullard-Davis, Inc.
Industrial Products Co.
Mine Safety Appliances Co.
Safety First Supply Co.
- Blankets—Fireproof**
Bullard-Davis, Inc.
Holcomb Safety Garment Co.
Industrial Products Co.
Mine Safety Appliances Co.
Safety Equipment Service Co.
Safety First Supply Co.
Wheeler Mfg. Co., F. H.
- Blow Torches**
Wall Mfg. Supply Co., F.
- Blowers—Exhausters**
Pangborn Corp.
- Boiler Gauge Guard**
Wright-Austin Company.
- Box Strapping—Metal**
Stanley Works, The.
- Buckets, Hoisting**
Bullard-Davis, Inc.
Industrial Products Co.
- Bulletin Boards**
American Allsafe Co.
Bullard-Davis, Inc.
Mine Safety Appliances Co.
Industrial Products Co.
Safety Equipment Service Co.
Safety First Supply Co.
- Bulletin Service**
Cleanliness Institute.
- C**
- Cable Locks**
Surtly Mfg. Co.
- Car Blockers**
Industrial Products Co.
Safety First Supply Co.
- Car Movers**
Industrial Products Co.
Safety Wrench & Appliances Co.
- Car Step Treads—Safety**
American Abrasive Metals Co.
American Mason Safety Tread Co.
- Carbon Monoxide Detectors**
Mine Safety Appliances Co.
- Chain—Factory**
Angie Steel Stool Co.
Taylor Chain Co., S. G.
- Chairs—Industrial**
Royal Metal Mfg. Co.
- Chairs—Safety Boatswain**
Murray Safety Sling Co., Inc.
- Chip and Spark Guards**
Chicago Eye Shield Co.
Industrial Products Co.
Surtly Mfg. Co.
- Clamps and Sockets**
Never Slip Safety Clamp Co.
- Cleaners, Industrial Vacuum**
Invisible Vacuum Cleaner Mfg. Co.
- Cleaning Compounds**
Oakite Products, Inc.
- Clothing for Industrial Workers—See Aprons, Caps, Gloves, Hand Leathers, Leggings, Overalls, Shoes**
- Clothing, Weatherproof**
Industrial Products Co.
Mine Safety Appliances Co.
Utility Garment Co.
- D**
- Disinfectants and Deodorants**
Abbott Laboratories.
Sulphol-Naphthol Co.
West Disinfecting Co.
- Drinking Fountains**
Halsey W. Taylor Co.
Rundie-Spence Mfg. Co.
- Dust Collecting Systems**
Pangborn Corp.
- E**
- Elevator—Safety Devices**
Surtly Mfg. Co.
- Emblems**
Mine Safety Appliances Co.
Williams Jewelry Mfg. Co.
- Exhaust Equipment**
Pangborn Corp.
- Eye Shades—Non-Breakable**
Chicago Eye Shield Co.
Bullard-Davis, Inc.
Mine Safety Appliances Co.
- Eyesight Surveys**
Eyesight Survey Corp.
Kludy Optical Co.
- Expanded Metal**
Erdle Perforating Co.
Harrington & King Perforating Co.
- Explosive Containers**
Diener Co., Geo. W.
Industrial Products Co.
Justite Mfg. Co.
Protectoal Co.
Mine Safety Appliances Co.
- F**
- Films or Slides For Rent and Sale**
National Safety Council.
- Finger Protectors**
Bullard-Davis, Inc.
Chicago Eye Shield Co.
Mine Safety Appliances Co.
- Fire Alarms**
Bullard-Davis, Inc.
Lakeside Mfg. Co.
Mine Safety Appliances Co.
- Fire Extinguishers**
American LaFrance & Foamite Corp.
Diener Co., Geo. W.
Fyr-Flyer Company.
Walter Kilde & Co., Inc.
Mine Safety Appliances Co.
Pyrene Mfg. Co.
- Fireproofed Clothing**
Bullard-Davis, Inc.
Holcomb Safety Garment Co.
Mine Safety Appliances Co.
Safety First Supply Co.
Wheeler Mfg. Co., F. H.
- First Aid Equipment**
Abbott Laboratories.
Rob't A. Bernhard.
Bullard-Davis, Inc.
Burrough - Wellcome & Co., (U.S.A.), Inc.
Hynson Westcott and Dunning.
Industrial Products Co.
Mine Safety Appliances Co.
Sharp & Smith.
Safety First Supply Co.
Mineralac Laboratories.
- Flags—Danger**
Industrial Products Co.
- Flammable Vapor Indicators**
Bullard-Davis, Inc.
Mine Safety Appliances Co.
- Flooring Materials—Safety**
Acme Steel Co.
American Abrasive Metals Co.
American Mason Safety Tread Co.
Central Iron & Steel Co.
Durable Mat Co., Inc.
Surtly Mfg. Co., Inc.
- Flywheel Guards**
Erdle Perforating Co.
Harrington & King Perforating Co.
Surtly Mfg. Co.
- Foot Guards**
Bullard-Davis, Inc.
Bilwood Safety Appliances Co.
Mine Safety Appliances Co.
Standard Safety Equipment Co.
- Foot Press Guards**
Surtly Mfg. Co.
- Fumigants**
Safety Fumigant & Chemical Co.
- Fuse Pullers**
Industrial Products Co.
Mine Safety Appliances Co.
Safety Equipment Service Co.
Trico Fuse Mfg. Co.
- G**
- Gas Detectors—Mine**
Bullard-Davis, Inc.
Mine Safety Appliances Co.
Union Carbide Co.
- Gauge Glasses**
Wright Austin Co.
- Gauge Glasses—Guards**
Wright Austin Co.
- Germicides**
Abbott Laboratories.
- Germicide—Cutting Oil**
Abbott Laboratories.
Sulphol-Naphthol Co.
West Disinfecting Co.
- Glass, Non-Shatterable**
Chicago Eye Shield Co.
Surtly Mfg. Co., Inc.
- Glass—Safety**
Safety First Supply Co.
- Glass, Wire**
- Gloves and Mittens**
American Allsafe Co.
Bullard-Davis, Inc.
Chicago Eye Shield Co.
Holcomb Safety Garment Co.
Industrial Products Co.
Mine Safety Appliances Co.
Safety Equipment Service Co.
Safety Clothing Co.
Safety First Supply Co.
Wheeler Mfg. Co., F. H.
- Goggles**
American Allsafe Co.
American Optical Co.
Bullard-Davis, Inc.
Carter-Loekard Co.
Chicago Eye Shield Co.
Duff-Hall Goggle Service.
Du Paul-Central Optical Co.
Industrial Products Co.
Mine Safety Appliances Co.
Safety Equipment Service Co.
Safety First Supply Co.
Standard Safety Equipment Co.
Willson Products, Inc.
- Gongs, Sirens, Horns and other signaling devices**
Bullard-Davis, Inc.
Mine Safety Appliances Co.
- Guards—Safety**
Erdle Perforating Co.
Harrington & King Perforating Co.
Industrial Products Co.
Surtly Mfg. Co.
- H**
- Hand Cream**
Mine Safety Appliances Co.
Peterson-Minter Co.
- Hand Leathers**
American Allsafe Co.
Holcomb Safety Garment Co.
Mine Safety Appliances Co.
Safety Clothing Co.
Safety First Supply Co.
Wheeler Mfg. Co., F. H.
- Hats—Safety**
Bullard-Davis, Inc.
Mine Safety Appliances Co.
- Helmets**
American Allsafe Co.
American Optical Co.
Bullard-Davis, Inc.
Chicago Eye Shield Co.
Holcomb Safety Garment Co.
Industrial Products Co.
Mine Safety Appliances Co.
Pulmosan Safety Equipment Co.
Safety Clothing Co.
Safety First Supply Co.
Standard Safety Equipment Co.
Wheeler Mfg. Co., F. H.
- Hooks—Chain Sling**
Taylor Chain Co., S. G.
- Hooks, Linemen's Belt**
Bullard-Davis, Inc.
- Hooks—Safety Hoisting**
Never Slip Safety Clamp Co.
O'Kelly Co., Gregory
- I**
- Hospital Equipment**
Bullard-Davis, Inc.
Burrough - Wellcome & Co. (U.S.A.), Inc.
Mine Safety Appliances Co.
Safety First Supply Co.
- Inhalators**
Bullard-Davis, Inc.
McDonald Engineering Equipment Co.
Mine Safety Appliances Co.
- J**
- Jointer Guards**
Surtly Mfg. Co.
- L**
- Ladders and Accessories—Safety**
Bullard-Davis, Inc.
Dayton Safety Ladder Co.
Laurie Mfg. Co.
Patent Scaffolding Co.
Safety First Supply Co.
- Lamp Guards**
American Allsafe Co.
Daniel Woodhead Co.
Glade Mfg. Co.
- Lamp Hangers**
Thompson Electric Co.
- Lamp Locks**
Mine Safety Appliances Co.
Multiple Selling Corp.
- Lamps—Safety**
Bullard-Davis, Inc.
Mine Safety Appliances Co.
Nichols-Lintern Co.
- Lanterns—Electric**
Bullard-Davis, Inc.
Industrial Products Co.
Mine Safety Appliances Co.
- Lanterns — Mine Electric**
Safety
Bullard-Davis, Inc.
Mine Safety Appliances Co.
Safety First Supply Co.
- Leggings**
American Allsafe Co.
Holcomb Safety Garment Co.
Industrial Products Co.
Mine Safety Appliances Co.
Safety Clothing Co.
Safety Equipment Service Co.
Safety First Supply Co.
Standard Safety Equipment Co.
Wheeler Mfg. Co., F. H.
- Linemen's Protectors**
Bullard-Davis, Inc.
Industrial Products Co.
Linemen Protector Co.
Mine Safety Appliances Co.
Safety First Supply Co.
- Linemen's Tool Bags**
Bullard-Davis, Inc.
Industrial Products Co.
- Lockers and Hangers for Clothing**
American Allsafe Co.
Safety First Supply Co.
- Lubricators—Safety**
Keystone Lubricating Co.
- Lubricants**
Keystone Lubricating Co.

When writing advertisers, please mention NATIONAL SAFETY NEWS

M Masks Bullard-Davis, Inc. Chicago Eye Shield Co. Industrial Products Co. Mine Safety Appliances Co. Pulmosan Safety Equipment Co. Safety Equipment Service Co. Safety First Supply Co. Standard Safety Equipment Co. Mats—Standing, Safety Acme Steel Co. Durable Mat Co.	Printing Press—Guards Surty Mfg. Co. Prize Awards Mine Safety Appliances Co. Williams Jewelry & Mfg. Co. Projectors—Film Society of Visual Education Pyrotannic Detector Mine Safety Appliances Co.	S Sand Blast Equipment Pangborn Corp. Sanders, Highway Highway Service, Inc. Saw, Safety Mine Safety Appliances Co. Saw Guards Helios Manufacturing Corp. Safety Equipment Service Co. Surty Mfg. Co.	Signs Collins & Co., Thos. E. Industrial Products Co. Mine Safety Appliances Co. Safety First Supply Co. Stonehouse Signs, Inc. Slides—L a n t e r n—Also see Films or Slides Slings—Chain Taylor Chain Co., S. G. Slings—Safety Wire Rope Murray Safety Sling Co.	Treads—Safety American Abrasive Metals Co. American Mason Safety Tread Co. Central Iron & Steel Co. Durable Mat. Co., Inc. Surty Mfg. Co., Inc. Trestles—Safety Extension Patent Scaffolding Co. Trophies Williams Jewelry & Mfg. Co.
O Oil Cans Bullard-Davis, Inc. Diener Co., Geo. W. Justrite Mfg. Co. Mine Safety Appliances Co. Protectorsal Co. Oxygen Breathing Apparatus Bullard-Davis, Inc. Mine Safety Appliances Co.	R Rail Clamps Industrial Products Co. Safety First Supply Co. Railroad Safety Devices Industrial Products Co. Respirators American Optical Co. Bullard-Davis, Inc. Chicago Eye Shield Co. Industrial Products Co. Hygeia Respirator Co. Mine Safety Appliances Co. Pulmosan Safety Equipment Co. Safety First Supply Co. Willson Products, Inc.	 Scaffolding Patent Scaffolding Co. Scrubbing Machines — Elec- tric Finnell Systems, Inc. Separators, Screen Pangborn Corp. Shaper Guards Surty Mfg. Co. Shoe Soles—Non-Slip Lima Cord Sole & Heal Co.	Solder, Self-Fluxing Kester Solder Co. Solders Kester Solder Co. Spray Painting Equipment Pasche Airbrush Co. Strapping—Metal Stanley Works, The. Switchboard Mats and Floor- ing Acme Steel Co. American Allsafe Co. Industrial Products Co. Safety First Supply Co. Surty Mfg. Co., Inc.	V Ventilating Apparatus Pangborn Corp.
P Pads—Knee Safety First Supply Co. Planers—Guards Surty Mfg. Co. Power Press Guards Chicago Eye Shield Co. Johnson Rule Mfg. Co., E. P. Safety Appliances & Machine Co. Surty Mfg. Co. Taylor-Shantz Co. Wiseman Mfg. Co.	 Resuscitation Equipment Bullard-Davis, Inc. McDonald Engineering Equip- ment Co. Mine Safety Appliances Co. Safety First Supply Co. Rock Dusters Mine Safety Appliances Co. Rope—Wire Williamsport Wire Rope Co.	Shoes—Factory and Foundry American Metal Shoe Co. Bullard-Davis, Inc. Chippewa Shoe Mfg. Co. Endicott-Johnson Corp. International Shoe Co. MacLaury, J. D. Mine Safety Appliances Co. Reece Wooden Sole Shoe Co. Safety Equipment Service Co. Safety First Supply Co. Safety First Shoe Co. Schiff & Co., Leon.	T Tools—Linemen's Klein, Mathias & Son. Tools—Non-Sparking American Metal Products Co. Traffic Markers Challenge Machinery Co. Metal Traffic Marker Corp. Nisly Co., Walter S.	W Washers—Safety for Grind- ing Wheels Standard Safety Equipment Co. Waste Cans Bullard-Davis, Inc. Diener Co., Geo. W. Justrite Mfg. Co. Mine Safety Appliances Co. Water Coolers Rundle Spence Mfg. Co. Window Cleaner Oakite Products, Inc. Window Cleaners' Safety De- vices American Allsafe Co. Wrenches—Hopper Car Industrial Products Co. Safety First Supply Co. Safety Wrench & Appliance Co.

INDUSTRIAL SAFETY MARKET

AS a service to our readers, we endeavor to maintain a complete list of the source of supply of all types of safety and allied equipment.

If you do not find what you want in the advertising pages, send in the coupon below, and we will have forwarded to you without charge, or obligation, detailed information and catalogs on material to meet your requirements.

National Safety News, 108 East Ohio Street, Chicago

Please have forwarded to me from various manufacturers, without charge, prices, catalogs, etc., on the following material:

Specifications: (Be specific as to size, capacity, quantity, etc., when prices are wanted.)

.....

.....

.....

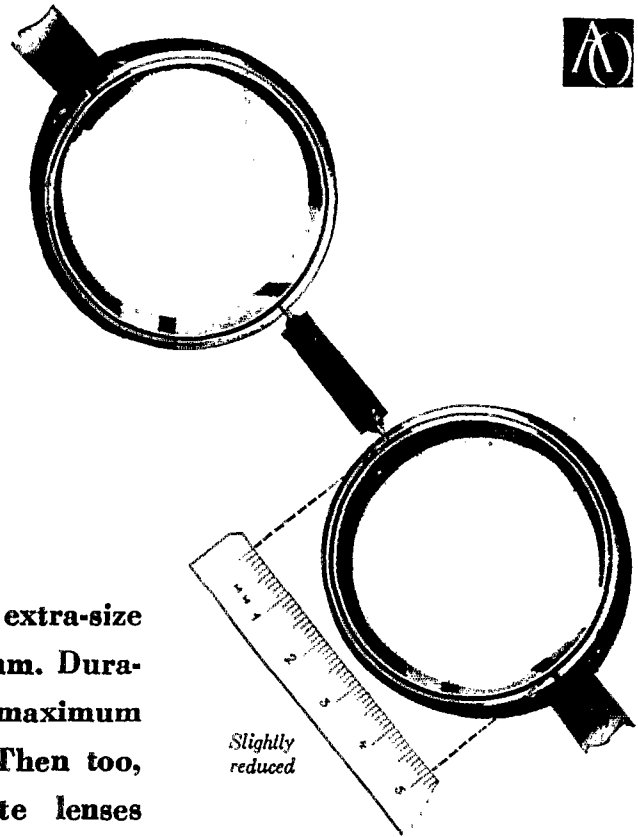
Company

Address

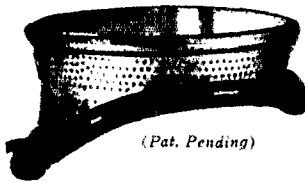
Your Name

When writing advertisers, please mention NATIONAL SAFETY NEWS

BIG



**50 mm. Duraglas Goggle lenses,
give wider field of clear vision,
prevent stumbling and falls . . .**



(Pat. Pending)

This illustration shows the extremely low Duraglas eye-cup You also see the sanitary, rolled-edge binding. Duraglas is all-metal construction, exceedingly light in weight, moisture proof, shaped to fit the face comfortably and well.

THE new, extra-size lenses in the 50 mm. Duraglas provide a maximum field of vision. Then too, Super-Armorplate lenses are used in this goggle—

made of strong, hard glass which gives absolutely true, clear vision without eye fatigue. It all means better, safer vision.

Everything has been done to make Duraglas a comfortable goggle that is easy to see through and easy to keep clean. It is well ventilated; the improved contour assures comfort and a snug fit. **DURAGLAS**—a truly efficient safety goggle.

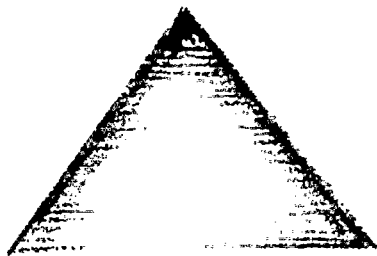
AMERICAN OPTICAL COMPANY

Safety Division

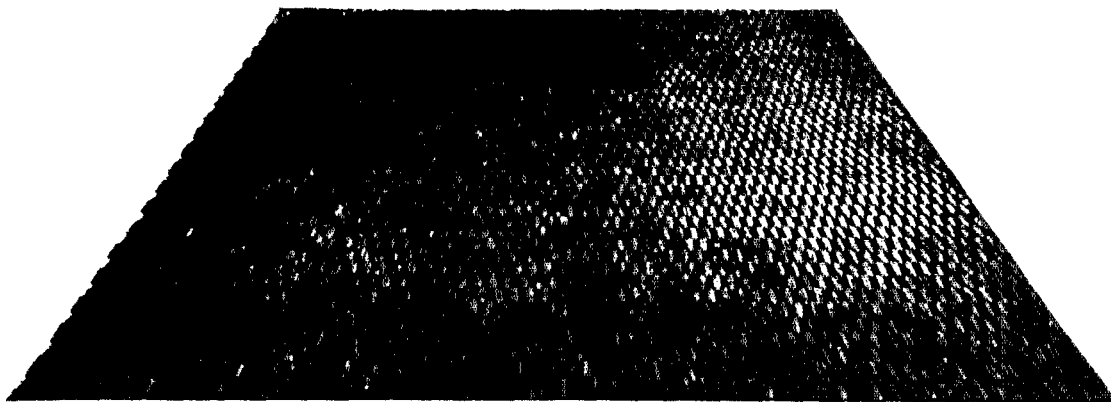
NEW YORK . ST. LOUIS . SAN FRANCISCO . CHICAGO . KANSAS CITY . ATLANTA



When writing advertisers, please mention **NATIONAL SAFETY NEWS**



A SURE PATH TO GREATER SAFETY



We heartily recommend Durable Safety Mats as a remarkable contribution to safety, comfort, cleanliness, sanitation, and economy.

Wet or dry, regardless of conditions, they are non-slip, give safe, positive tread and traction.

They reduce fatigue, because of a resilience like that of natural turf; foot soreness, leg, back and body strain, and general fatigue are reduced. By insulating from dampness, they help to ban rheumatism. Their use helps to increase production.

They pick up all litter, cleaning snow and dirt from feet that pass over them. This dirt is all collected in one place, to be easily and completely removed by lifting the mat. Sanitation is a step towards safety.

Durable Safety Mats are made of the strongest rubberized fabric. Service tests extending over seven years indicate that ten, and even more years of service may normally be expected. First cost may be considered last cost; which means that the cost per year of service is ridiculously low. The mats are a real investment.

Durable Safety Mats are ideal for all applications around industrial plants. Prices, and additional information, will be gladly furnished. Just write us.

SAFETY FIRST SUPPLY COMPANY

MANUFACTURERS OF DIAMOND SAFETY PRODUCTS

Brady Building (Ross Street and Third Avenue)
PITTSBURGH, PA.



**PROTECTION
COMFORT
DURABILITY**

**.. and
backed by a
FEARLESS SERVICE GUARANTEE!**



IN offering Super-Dreadnaut Goggles, we do not seek to win your favor by weight of words. We do not ask you to accept our claim that Super-Dreadnauts provide an extra margin of comfort, afford a greater degree of protection, deliver longer service life. Instead, we offer you ACTUAL PROOF of the outstanding ability of Super-Dreadnauts to provide more effective protection, to afford greater comfort, to last longer than any other goggle—proof substantiated and confirmed by demonstrated performance in the plants of actual Super-Dreadnaut users.

More—before asking you to invest one penny in Super-Dreadnauts, we invite you to make an actual test in your own plant—to compare Super-Dreadnaut protection with any other goggle on the market.

Finally, as conclusive proof of our confidence in the superior performance merits of Super-Dreadnaut—as tangible evidence of our desire to protect every single dollar you invest in Super-Dreadnauts, we place solidly behind every pair sold an unqualified Service Guarantee which expressly agrees to replace, irrespective of length of service, any Super-Dreadnaut lens or frame, broken in service.

On request, a sample pair of Super-Dreadnaut Goggles for a conclusive plant test will be sent to Safety Directors, Plant Executives or other responsible executives.



THE SAFETY EQUIPMENT SERVICE
COMPANY
Buell W. Nutt, President
1228 St. Clair Avenue
Cleveland, Ohio.

**SUPER
DRED NAUT**
A New Safety Comfort Goggle