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NATIONAL SAFETY NEWS

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NATIONAL SAFETY COUNCIL
TROPHY



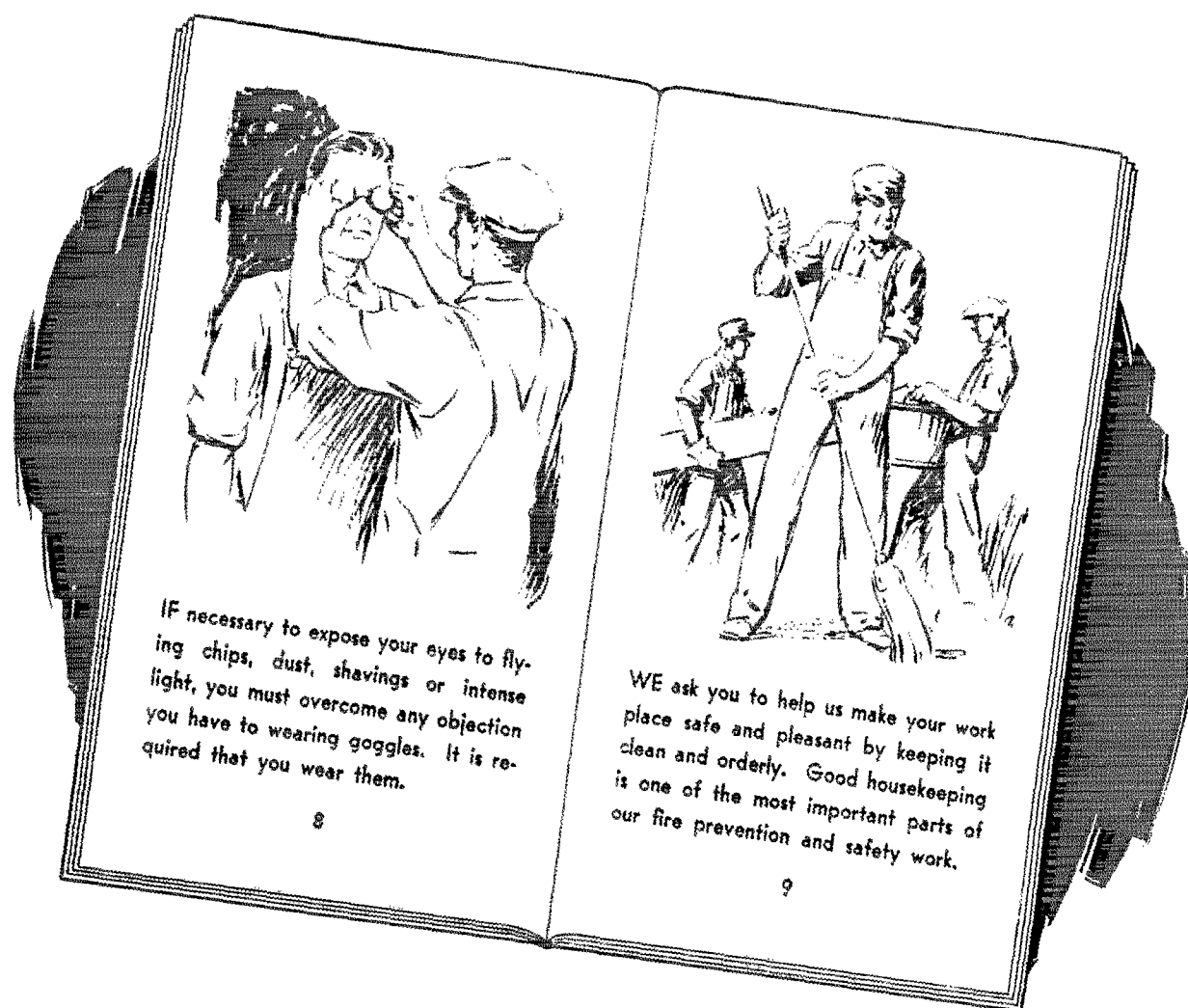
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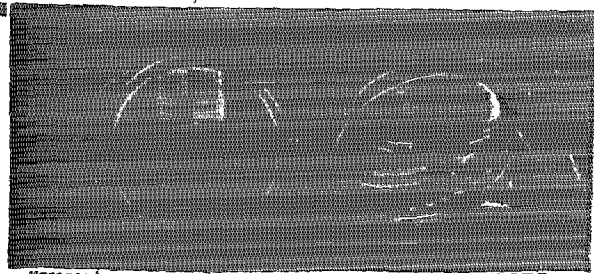
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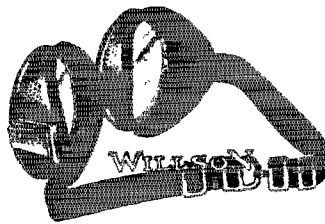
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NOVEMBER, 1932

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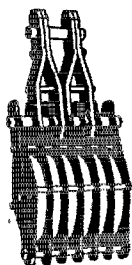
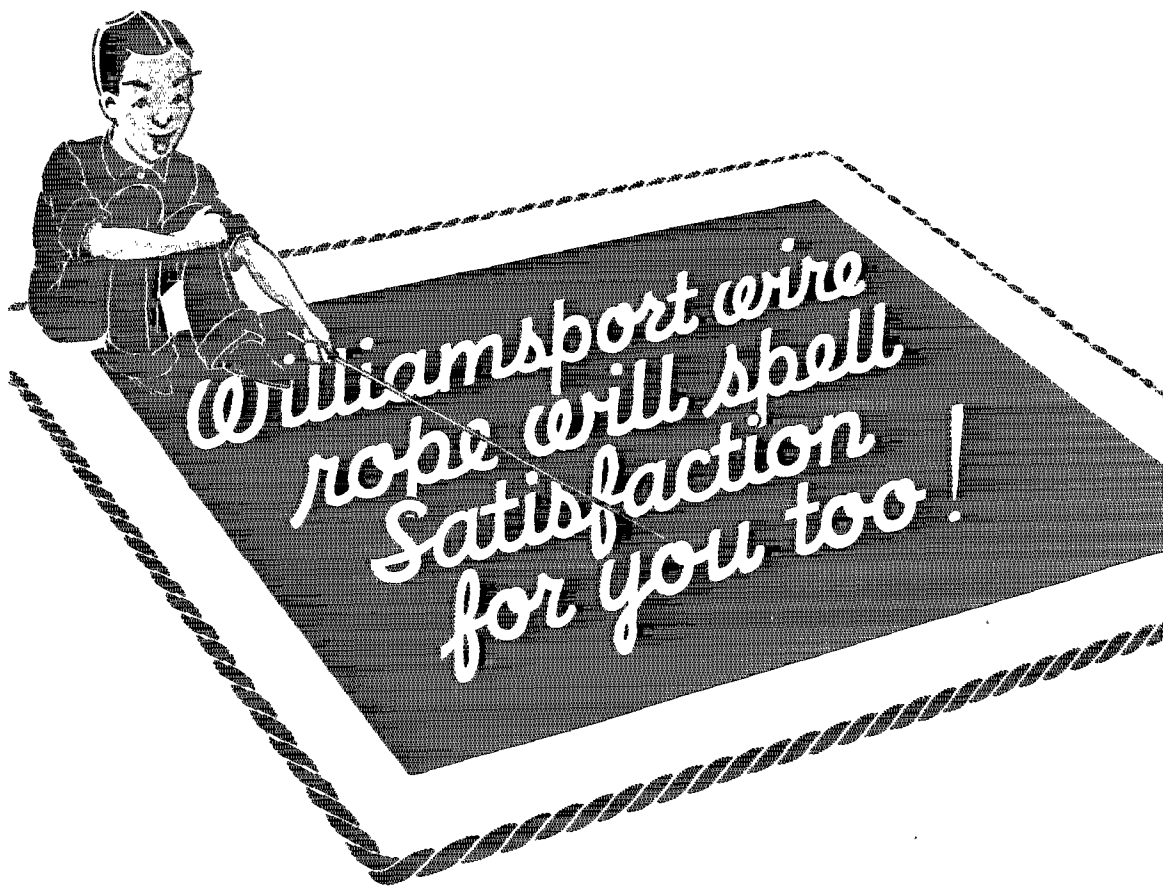
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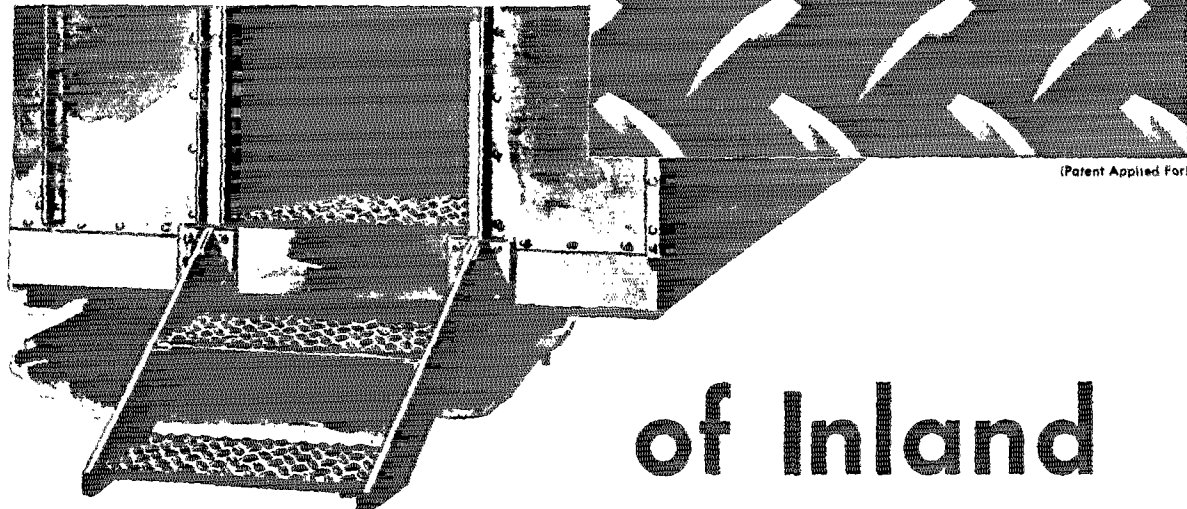
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NATIONAL SAFETY NEWS

PUBLISHED MONTHLY IN THE INTEREST OF ACCIDENT
PREVENTION AND THE HEALTH OF INDUSTRIAL WORKERS



NOVEMBER, 1932

VOL. XXVI, No. 5

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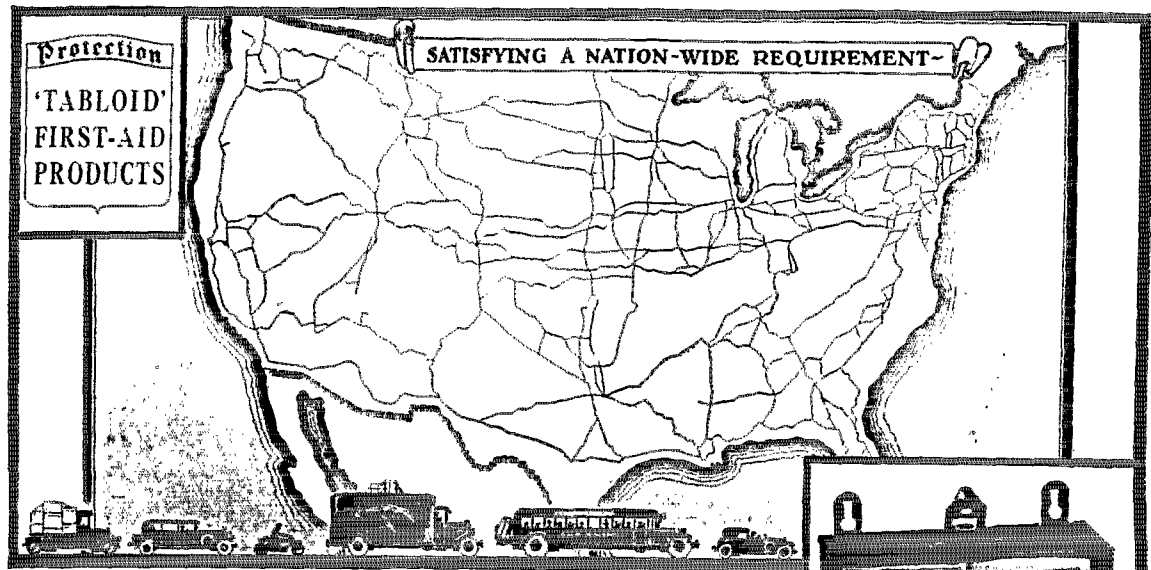
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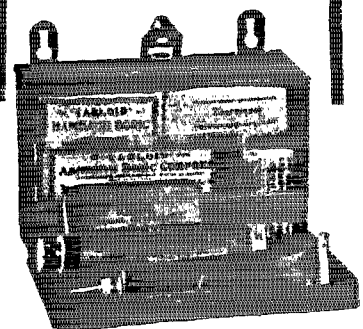


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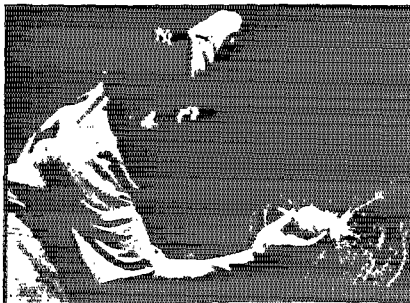
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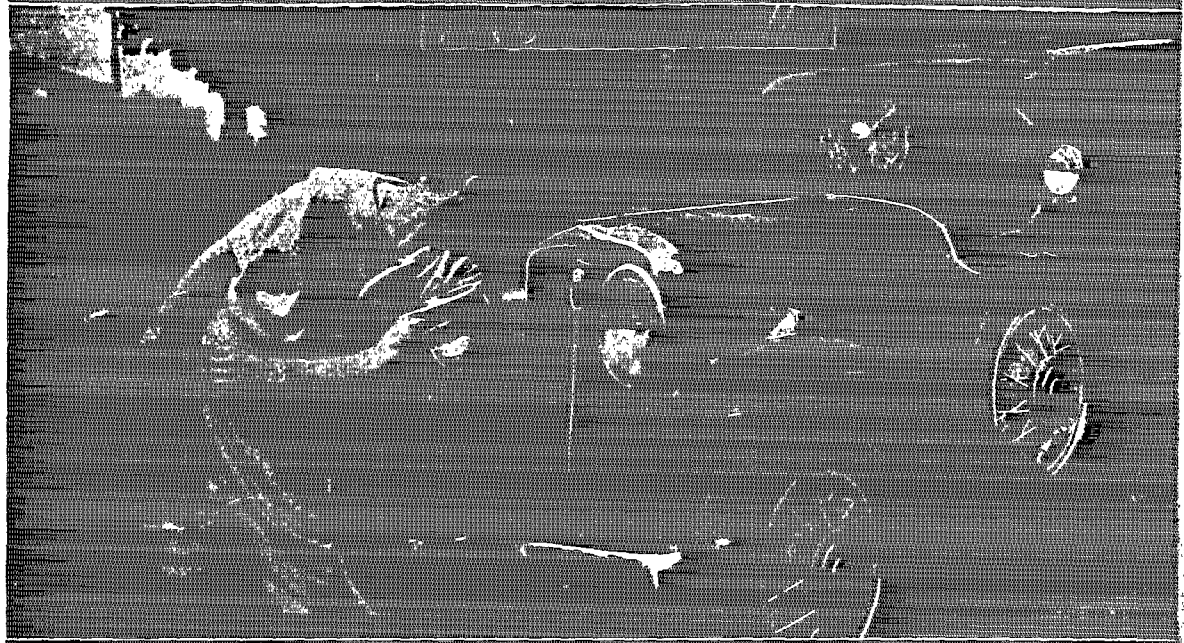
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NATIONAL SAFETY NET

NATIONAL SAFETY NEWS

PUBLISHED BY NATIONAL SAFETY COUNCIL, INC.

VOLUME XXVI

NOVEMBER, 1932

NUMBER 5

A Source of Encouragement

ELIJAH, in despair at the waywardness of his people, found new hope and courage in the revelation that there were still thousands in Israel who had not bowed the knee to Baal.

Similarly, the safety man who attended the Twenty-first Annual Safety Congress must have experienced a renewed faith and enthusiasm at the evidence that industry and the public generally are still solidly behind the safety movement. While the attendance seemed small in comparison with the immense gathering of 1929, it must be remembered that each delegate meant a greater proportionate outlay for his company than two in any normal year. Every dollar expended this year looks twice as big to the comptroller as one spent a few years ago.

Early in the year some members questioned the advisability of holding a Congress in 1932. They felt that many companies had pared their budgets to the point where it would be impossible to send representatives, and that an unsuccessful congress might impair the prestige of the safety movement. The opinion prevailed, however, that the value of continuity of the annual meetings far outweighed the possible effects of reduced attendance.

The practical data made available through a Congress furnish ample reason for holding it, and management rightly expects some return of this kind. These provide a secure foundation for the less direct and tangible benefits which might otherwise be lost under the stress of economic conditions. The spiritual and psychological values of attendance may not be evident in the report to the general manager, but they can not be ignored. And this year particularly, proof of the enduring qualities of the safety movement has been one of the chief values of the Congress.

An Expensive Luxury

THERE is throughout the United States a widespread and vociferous propaganda against government, declares Professor Charles E. Merriam of the University of Chicago. One has only to read the daily press to realize the truth of this statement. Not all of this abuse comes from the radical elements; certain conservatives are to be found in the anvil chorus.

That the cost of government has become a serious burden cannot be denied. Yet the public must not forget that many of the costly activities now being conducted by government were undertaken in response

to popular demand. And waste and inefficiency are not confined to government.

"For my part," says Professor Merriam, "I do not hesitate to say that the most expensive luxury in America today is the common opinion that all government is necessarily weak, ignorant, corrupt and contemptible. This attitude costs billions of dollars annually. It poisons the springs of governmental interest, enthusiasm and service. This boycott of public life makes difficult the recruitment of the personnel necessary for government. It makes government inviting for spoilsmen, grafters and racketeers, and drives away many of those who might best serve the state. It produces higher costs and lower achievement levels."

Man does not work for money alone. Part of the compensation is in pride in his job and the recognition of his services by society. If we regard all public servants as crooks, then honest men will tend to stay out and the crooks will come in. And the public pays.

The principal qualification for office seems to be a thick hide. Unless we are willing to give governmental service a higher standing, we must continue to pay extravagant rates for such service as we get. "And," warns Professor Merriam, "it is indeed doubtful whether a government not commanding full public confidence and respect can deal with the existing complications, industrial and governmental, or our modern life."

In This Issue

ASUMMARY of the accomplishments of the safety movement during the past year and a thoughtful interpretation of the accident situation is contained in the President's Annual Address. Too many people think that accident prevention is largely coercion, Mr. Bergquist declares. The work of prevention is further handicapped by a more or less prevalent attitude of indifference, tinged somewhat with fatalism.

Those who heard Edward J. Mehren's address before the Annual Meeting of Members gained a new conception of the far-reaching influence of safety work. While industries have been saving lives, with substantial direct profit to themselves and their employees, the by-products of good will have been scarcely less profitable.

Few companies have a wider range of territory and experience from which to compile accident data than has the American Telephone & Telegraph Company. And probably no organization has made more effective use of the information obtained. W. P. Elstun describes the methods used in compiling data and disseminating it among the various operating units of the system as a guide to safer operation.

NOVEMBER, 1932

THE MANAGING DIRECTOR'S PAGE

The Common Mind

IN SPITE of personal characteristics human beings, beneath the surface, have the same common or social mind. The similarities of motivating instincts, desires, or mind-source out of which come the expressions of life is the point of attack of the safety problem. This common mind must be persuaded that accident prevention is natural and reasonable; a thing to be desired and striven for.

Safety men have been saying for 20 years "90 per cent of all accidents are due to the human element," but how many realize that this is tantamount to saying that many accidents have their source in the actions of reactions of the common or social mind which must be understood and appealed to if we are to create an acceptance for Safety.

A ne'er-do-well son of a millionaire mill owner was sent to a southern town to "learn the business." He discovered that the difficult operating problem was to keep the mill going during the entire week. The colored men would work for two to three days; get enough money to satisfy their casual wants and they would not return to work until this money was spent. This young man conceived an approach to the common mind by establishing a new store in which were attractively displayed many new articles of clothing and household goods that immediately appealed to the colored women folks. They wanted those new bright hats and dresses and parlor furniture, but there was only one way to get them. Their men folks had to work harder and longer. The mill was soon on a full week working schedule. This appeal to a common desire for a personal adornment and household display settled a production problem.

How can the worker be made to want safety? The appeal must be made to his underlying mind composed of the egoistic instinct; unfulfilled wishes of many kinds; the reservoir of the every day accumulation of everybody's mind.

In this common mind we have the group of family ideas, the love of one's native land, the religious or spiritual ideal, the wish for economic

prosperity, the desire for some kind of prowess or personal attainment, some form of appreciation of the beautiful, and many other common desires.

One of the discoveries about this common mind is seen in the success of safety contests. They were practically untried for fifteen years. Now we know that almost any kind of creative rivalry between departments, between two or more plants of the same company or in the same industry, or by varied industries will stir up an interest in this common mind that will practically free the plant of accident tragedies. The award for the contest should be individualistic as possible and conferring personal distinction. The soldier proudly wears the Croix de Guerre.

NEWS OF THE MONTH

ALTHOUGH the Council's newest publication "Safety Pays" has been in the hands of members but a short time its popularity has necessitated a second printing. This concise, well illustrated booklet states in simple and understandable language the essential rules of safety. Write to headquarters if your sample copy did not reach you.

Through the initiative and cooperation of W. Earl Hall, Commander of the Iowa Department, The American Legion, all other state commanders of the Legion were furnished with a copy of the 1933 Safety Calendar with the suggestion that the local post be given an opportunity to sponsor the distribution of the calendar to the schools in their locality. Many service clubs, civic groups and other public spirited organizations have already made this contribution to the safety education of their school children.

As the time approaches when the various state legislators will convene we are reminded of the necessity for organized action looking toward the enactment of Drivers' License Laws. In many states campaigns for this important legislation are already underway and every member of the Council should use his influence to further these important life-saving measures.

More than 2,000 copies of the 16-page booklet, "A Balanced Program for Reducing Traffic Accidents" have now been distributed to interested organizations and groups throughout the country. There has been widespread use of material in this booklet by newspapers and magazines.

188 separate issues of news-letters for industrial sections were produced between the 1931 and 1932 Congress.

If personal responsibility must be secured will it be through appeal to this common mind? The safety man must learn the most effective appeals; he should have a chart on the wall of his office, or at least in his mind, of these familiar appeals to the common mind. When he writes a letter, prepares a poster, talks to his safety committees or fellow workers, he should appeal to man's innate desires. He must touch one or all of them to get consent to building up safety in the individual, in the plant, in the community and in the world.

Civilizing Forces

PICTURE the results if the wheels of social progress were to be suddenly stopped. If people everywhere were to be deprived of everything except the basic essentials of life—food, heat, clothing and shelter.

It is apparently true that many people are thinking in terms of these four essentials, influenced perhaps by the unusual amount of deprivation around them. But these same people should not forget that our present social structure cannot endure if it is to be dependent upon a society entirely devoid of human refinement.

Survival is a first consideration, but is gaunt starvation so prevalent as to crowd out all other consideration of spiritual and material needs? This "sackcloth and ashes" attitude has filtered into business and industry, with the consequence that many desirable and worth-while activities are set aside with the excuse that "no money can be spent for anything, except food for the unemployed."

If conditions justify this attitude, then surely all places of amusement should be closed. Our educational system should be locked up. Our churches should be dismantled, and all training programs, boys' and girls' clubs, libraries, and other socially supported institutions should go by the board. What a dismal picture!

The Safety Movement has its place among those essential civilizing forces that must be preserved in times of economic readjustment. Safety is a

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NATIONAL SAFETY NEWS

The President's Annual Address

By CARL W. BERGQUIST*

If we needed evidence of the nation's confidence, we have it this morning. Our numbers, it is true, are not equal to those of previous years, but events have frequently shown us that size is not the only standard for measuring values. That we have drawn so large an attendance in the face of universal retrenchment is indeed evidence of the confidence which industry and the public generally feel in the safety movement. And I feel also that thousands who are unable to be present today are with us in spirit.

Time does not permit the listing of the important activities of the Council during the past year but I wish to remind you of some accomplishments of more than ordinary significance.

Among these is the Balanced Program for the Reduction of Traffic Accidents drawn up by the Public Safety Advisory Committee. This brief pamphlet, based on the experience of many states, communities and other groups which have made substantial progress in controlling traffic accidents, presents remedies that have been found effective, discarding the countless fads and unsound theories which have been tried and found wanting.

Among the valuable contributions which the Council has made to the public's knowledge of accidents is the annual publication "Accident Facts." It is recognized everywhere as a source of up-to-date and authentic information on accidents. The 1932 edition contains the encouraging information that 2,307 industrial units have reduced their accident frequency rates 38.4 per cent and their severity rates 19.3. Unfortunately, the experience of American industry as a whole lags far behind the experience of this group of progressive companies. These units reduced accidents by intensive effort intelligently directed.

The attitude of the press toward the Balanced Program and the information contained in Accident Facts has been most encouraging. Facts have

*Superintendent of Public Relations, Western Electric Company, Hawthorne Works, Chicago. President, National Safety Council, 1930-32. (Read before the Annual Meeting of Members, Twenty-first Annual Safety Congress, Washington, D. C., October 3, 1932.)

NOVEMBER, 1932



Carl W. Bergquist

been freely quoted and commented upon editorially. Newspapers are beginning to realize the seriousness of the accident toll and have shown an encouraging desire to cooperate in spreading safety information.

One of the most effective methods of keeping up interest in safety has been the contest. After several years we find contests used more extensively than ever. Six industrial groups of

Council members now hold contests annually, involving some 700 industrial units and more than 200,000 workers.

For the first time this year the cities were enlisted in a traffic safety contest: 442 cities, representing a total population of 41,277,000, are now competing for the honor of being known as the safest city in the United States.

Trophies were again awarded by the Council to the railroads in the nine classifications which had the lowest employee casualty rates during 1931.

Regional safety conferences held throughout the country showed attendances only slightly below that of previous years.

Posters in Demand

Another encouraging sign has been the continued demand for safety posters. Although many members have found it necessary to cut down the distribution of some of the aids to safety as the working forces decreased, posters are used more intensively than ever. The low cost of the posters and their proved effectiveness have made them indispensable in the safety program.

A new booklet "First Aid Reminders," presenting important first aid directions in simple form, was distributed to the membership and highly praised by those familiar with first aid principles. Other booklets now in course of preparation include "Women in Industry," "Safety Pays," and a brief rule book applicable to practically every industry.

Efforts to establish safety in the curriculum of vocational and trade schools have been meeting with more success every year. At the last Congress the School Shop and Laboratory Committee was organized and members undertook two important surveys—one covering the extent of safety education in vocational schools, and the other, the extent of safety education in vocational school teacher training institutions.

Last year we felt that we had reached the bottom of the depression but the ensuing months revealed new depths. The safety movement could not help but feel the economic pressure which was affecting business generally but the National Safety Council has suffered far less than other associations. Its income from membership dues and the distribution of publications has been drastically reduced; the staff have accepted substantial salary reductions in common with the employees of member companies and all of our expenses have been cut in half. Some activities have been curtailed but no essential service has been dropped.

In our efforts to prevent physical injuries we are not unmindful of the

injury and death. This problem is devastating social effects of economic now occupying the greater part of the public's attention. It is no less destructive than actual physical injury, and, in fact, it has a serious bearing on the individual's susceptibility to accidents. Undernourishment, lowered morale, worry and uncertainty about the future—all of these make the worker an increased accident risk, even when the demand for production is missing.

But there is another side to this question. Accidents are as costly as ever to the individual and to his employer. True, there may be fewer orders in the shop but the customer wants delivery promptly. An accident upsets planned production; it adds to costs. Likewise it adds to the distress of the individual and places an added burden on both industry and the community when resources are already taxed to relieve distress. And we must not forget that prosperity is not likely to return to the victim of a disabling accident.

The experience of the last three years has taught us that although accidents increase with business activity they do not decrease proportionately with output. In fact, many new and disturbing factors complicate the work of accident prevention. Safety departments have, in many cases, been obliged to carry on with reduced staffs, and with smaller appropriations for safeguards and maintenance. Even more serious have been the mental obstacles. Men have been worried, perplexed, uncertain about their jobs. Perhaps their health has been impaired by neglect of medical and dental service which their reduced earnings could not afford. Men who return to work after periods of idleness are out of step and they are likely to be accident prone. The safety director's problems have been multiplied.

Enforcement Not Enough

Those who are not familiar with safety work are apt to gain the impression that accident prevention is easy in times of slack business. They argue that the present surplus of labor makes it easy to enforce safety rules. It is unfortunate that many people have the idea that preventing accidents is merely a matter of coercion, and this attitude has influenced our handling of traffic problems as well as shop problems.

We have learned that enforcement alone will not bring safety. We have found, for example, that a shop rule requiring the use of any safety device will not be obeyed unless the foremen and workers have been sufficiently impressed with the necessity and justice of this rule. Drastic rules will fail without proper backing. A feeling that accidents are a black eye to the shop and emphatic disapproval of the man who endangers the safety record are more effective than harsh rules halfheartedly enforced.

In the field of public safety we find the same principles. We have seen temporary enforcement drives which forced some of the reckless to moderate their driving until the excitement subsided. We have seen campaigns of a highly emotional nature which brought temporary results but no fundamental reformation. The average person is still nonchalant about reckless driving. Some think that getting a ticket for speeding is merely a joke. In short, the general attitude is very much like that of the woman who was bragging about her sons; they'd never been arrested—except for speeding and on liquor charges.

Divided Responsibility

Yet we must not forget that the desire for speed is not in itself vicious. It is only when it upsets the judgment of the individual and becomes dangerous to his fellow citizens that it begins to assume criminal aspects. The majority of accidents are not caused by an easily recognizable criminal class that can be segregated and dealt with accordingly. If that were so, the problem would be much easier of solution. No, the majority of those who are responsible for accidents are just ordinary human beings. Moreover, the responsibility for any particular accident is seldom clean cut. There are usually many factors contributing to the result and the responsibility is seldom entirely on one side. And to add to other difficulties there is still a more or less prevalent fatalistic belief that accidents are inevitable.

Is it any wonder, then, that our progress seems slow?

The public loves the spectacular, but the safety movement, unfortunately, has little to offer in this direction. Accidents, particularly those assuming the proportions of a caras-

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NATIONAL SAFETY NEWS



Good Will Dividends from Safety Work

By EDWARD J. MEHREN*

PERHAPS many of the readers of this article will wonder why I have turned to what seems a minor field of inquiry and have neglected the major and more obvious benefits of safety work. True, I have chosen to speak of a by-product rather than a direct effect. I have passed over the great areas of immediate benefit—the physical, the social and the financial results of safety work.

But why should I not neglect them? You, the experts, have traversed these fields thoroughly. You have set figures on their value. For me, therefore, a less explored area is advisable.

But, further, I do not regard the field of my survey as a minor one. It is indirect, it is true. Its benefits are difficult to weigh and scale. But its influence is mighty; I might even say, all pervasive. For the good-will that flows from industrial safety work can help our industries in their task of making sound adjustments internally and in their relations with the public. Approximately 33 per cent of us Americans and our families live our lives in and through industries. As individuals, as a nation we are affected by their operations and by their relations to the public. Any force that can favorably influence their internal and external adjustments is obviously important in American life.

Such a force I conceive to be the good-will that flows from safety work.

Good-Will in the Plant

This good-will obviously shows itself first in the industrial plant itself. There is found the first of the good-will dividends. To understand how they are earned one must know the mechanism of safety work. You who

*President, Portland Cement Association, Chicago. (An address before the Annual Meeting of Members, Twenty-first Annual Safety Congress.)

are industrialists know how it operates. It is not only inspection and safeguarding of dangerous machines. It is not only fire drills and first-aid work. It is not only safety teams and exhibitions. It is all of these and more. Above all, it is an education of men in hazards and their reduction, in the value of health and sound limb to workers and their families, in mutual responsibility for each other's safety.

Its mechanism is the safety committee wherein foremen and other workers report and discuss hazards, study accidents, decide on preventives, and—most remarkably—impose on themselves the responsibility to see that these preventives work. The safety committee, then is

- a body of technical experts on accident prevention
- a keen-eyed vigilance committee to spot hazards
- an analyst to diagnose causes
- a deliberative body to resolve on a program
- a moral force to secure acceptance and observance of its decisions
- a group actuated by the high motive of conserving for their families their own lives and limbs and the lives and limbs of their fellow workers
- a committee, acting by themselves, but on problems of deep concern to the management and therefore in constant counsel with the management group.

In rotation men take membership on the safety committee. It is a school wherein men are discovered, educated, inspired; given a comprehensive view of the industry, its purposes, its ideals, its management. They are no longer "mill-hands" or numbers on a pay-roll but men, ex-

pected to think, and respected because they do so.

What more natural, than that these committees—deliberative and legislative bodies as they are—should have taken on wider functions. Without urging, they have applied themselves to personnel problems and placement, discipline, relief, community service, education and recreation. By natural stages they have become an informal works council, without commission other than the commission of knowledge, without authority other than that of the workers' and the management's confidence.

Where men are regarded as men they give of the loyalty of men. In such plants there is understanding between workers and management. The safety committee has become a means for exchanging views. In the cement industry, for example, our excellent employee relationships are due to the removal of all ground for discord and dissatisfaction through the operations of the safety committees.

Good-will is evidenced in plant loyalty and devoted workmanship, which seek always the success of the enterprise. The plant has become not "the company" but "our company."

Thus do we receive the good-will dividend in the plant itself. Thus do we promote the internal adjustment of which I spoke in my opening remarks.

Good-Will of the Community

The satisfaction, the pride, the loyalty thus developed cannot be confined to plant limits. The men take them home. "The company" becomes "our company" to wives and

children, as well. Why not? Has it not operated mightily for wife and children in safeguarding the worker's life and limb?

Further, safety lessons learned in the factory are carried to the home, the schoolroom, the lunch club and the public-safety group. Mishaps are reduced in the home and on the street. The worker, in learning to protect himself, has learned to safeguard the lives of his family and neighbors.

As accidents have dwindled, pauperism and demands on charity have declined. Buying power has increased and so have saving deposits. Homes are better kept. Families rise to a higher scale of living. Community life benefits. The social dividend is high.

The story travels. The plant acquires a good reputation. It has the pick of the workers. Smoke from its chimney that might have worried the town, now issues forth as a good omen. While it continues jobs are secure.

Local officials take pride in the enterprise. Neighbor industrialists accord it leadership. Public regard develops a feeling akin to ownership. The final result is that officials and the public help where they might hinder. Here we have a step, through the agency of safety, in the adjustment of industry in its relations with the public. And this is another good-will dividend from safety work.

Good-Will of the General Public

The spread of good-will beyond the community is of a less tangible and demonstrable order. But it is real nevertheless. Here I must call specifically on the experience of the cement industry.

We have made, as you know, an enviable safety record. The story has reached the public in many ways, one of them through the wide publicity given to the dedication of safety trophies at plants which have gone through the year without a lost-time accident. The trophies are handsome massive monuments—made of concrete, of course, which are unveiled at dignified and inspiring ceremonies, often the biggest events in the histories of their communities. Governors, U. S. senators, congressmen, mayors, other officials are glad to grace these occasions because they are evidence of a valuable, unselfish social service to the community. They have

Safety work that will yield by-products must be sincere; it must, in full faith and honesty, be directed to the conservation of men



been loud in their praise of our accomplishment and that praise has echoed even beyond the boundaries of the state.

Our Annual June No-Accident campaign, in which every operating man in our industry is enrolled, is made the subject of tremendous interest in every cement mill and quarry community. Many other industries seek to enroll. Over a hundred mass meetings of our workers are held simultaneously each year on the last day of May and 160 flag raising ceremonies occur on the following morning. They are the opening guns in a campaign but the battle is for safety, not for slaughter. These events frequently touch off community safety drives as well. Obviously the cement company and the cement industry come to favorable notice.

Over the country, our key operating men, in the proportion of about one for every twenty men employed, assemble annually at convenient points for regional safety conferences. Interchange of ideas, analysis of trends and suggestions, renewal of enthusiasm are the objectives. These affairs have become events of outstanding interest. They have attracted cabinet members, governors, leading educators and sociologists. The papers and deliberations have found their way into the public and the trade press and have been reprinted by the thousands.

Good-Will of Compensation Commissioners

Among the most valued evidences of good-will from our safety work are the unsolicited messages of congratulation and encouragement received from state officials charged with the reduction of industrial accidents. Some of the commissioners have furnished the word of impetus and cheer that has sent us full steam ahead into our best efforts.

One commissioner recently wrote: "My own slant on the depression is that if industry ever needed the example of inspiring safety records, it needs it now. Reduction of accident waste can be a most important factor

in rehabilitation as you realize, and my concern comes from the tendency to scrap safety effort now as a misguided step toward economy. For these reasons I feel that the Portland Cement Association is to be more than ever congratulated on what it has done for the cause of safety in June, 1932."

Another says: "The safety record of the cement industry should be an incentive for others to go and do likewise, and I trust that the State Safety Codes Commission, may be able to use your good work as an example for others to profit thereby, to the happiness, health and wealth of mankind."

The National Safety Council has given to the press much about our record and this distribution has spread a good name for us far and near.

By many other means and channels, this word of our accomplishment for the welfare of our men has spread and built good-will.

Value of This Good-Will

We cannot measure accurately the value of the favorable attitude thus created. We know that any industry is liable to attack and criticism by the designing and uninformed. But such attack is parried, in part at least, if there is a shield of public good-will.

I believe, too, that public favor builds business. If any are inclined to doubt me, I ask them whether the "House of Magic," whether Gerard Swope's leadership in social thinking, whether Owen D. Young's eminence in social thought and international economics have made business for General Electric. I believe they have, for they have predisposed people toward that company. To their minds, the House of Magic, Swope and Young give assurance that the General Electric is progressive, reliable, square-shooting.

In similar fashion, good-will is a business builder for any organization which possesses it.

Again, we have a good-will dividend from safety work, again a step in improving the relations between industry and the public.

Perhaps we can extend our survey farther and discover in America's safety effort international benefits. Certainly the world accords us the leadership in safety. We are elevated as the shining example of what can be

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NATIONAL SAFETY NEWS

The 21st Annual Safety Congress



J. I. Banash

J. I. BANASH, president-elect of the National Safety Council, is a consulting engineer of wide experience and reputation. For many years he has specialized in fire and accident prevention in their relation to the physical and chemical sciences, and has recently achieved prominence for his work with artificial atmospheres high in oxygen in relation to therapeutic applications.

Mr. Banash received his classical training in the Boston Latin School and later the degree of S.B. in electro-chemistry at the Massachusetts Institute of Technology where he taught for one year following graduation. For twelve years he was with Underwriters' Laboratories where he became head of the Casualty Department. In recent years he has established a consulting practice in Chicago.

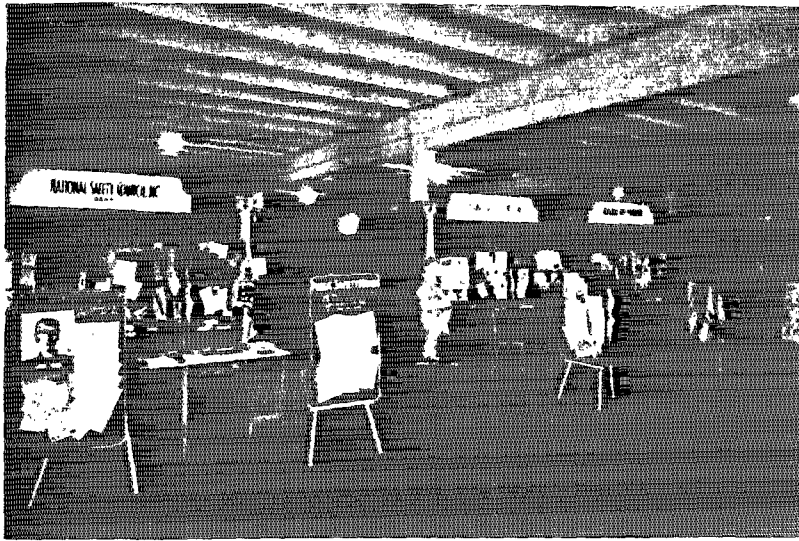
Mr. Banash has been retained as consulting engineer for the International Acetylene Association. He is a member of the American Society of Mechanical Engineers, International Association of Fire Chiefs; National Fire Protection Association, and Railway Fire Protection Association. For the past two years he has been vice-president for finance of the National Safety Council.

ANY doubts and fears that might have lingered in the minds of the sponsors of the Twenty-first Annual Safety Congress disappeared before noon on Monday, October 3. Advance hotel registrations had been fairly satisfactory, considering conditions in general, but many felt that it would be too much to expect a vast and inspiring gathering such as had marked the Congresses of previous years. The total attendance, estimated at 3,500, did fall considerably short of the record for peak years, but the inspiration and enthusiasm of previous years was there.

For many years a Congress in Washington had been considered by the officers of the National Safety Council, but the attendance during more prosperous years would undoubtedly have imposed a severe strain on the hotel facilities. This year it was felt that conditions would permit holding the annual gathering of the Safety Movement in the national capital, and numerous letters received since the Congress, confirming verbal comments at sessions and in hotel lobbies, have indicated that the choice of a Congress city and the program were approved by the majority of delegates.

The location of the two headquarters hotels, the Wardman Park and the Shoreham, in a quiet residential district, was enjoyed by many who found opportunities for rest and relaxation between sessions. At the same time, places of entertainment were readily accessible to those who wanted diversion after hours.

As in all conventions held anywhere not all arrangements were perfect. Only in Chicago has it been possible to group all meetings in one hotel. This year, however, movement between the Wardman Park and the Shoreham involved considerable hill climbing, and one delegate compared mounting the steps from the exhibit hall to the meeting rooms to climbing the Washington Monument. But these were invariably accepted as minor inconveniences incidental to holding the Congress in a city which offered an unusual number of attractions.



The National Safety Council Library exhibit at the Congress.

J. I. Banash, consulting engineer of Chicago, was elected president of the National Safety Council for the coming year. Mr. Banash has for many years been engaged in accident and fire prevention activities and has been identified with the work of the Council for a decade. During the past two years he has served as vice-president in charge of finance. The retiring president, C. W. Bergquist, was presented with a shotgun by his fellow officers and executive committeemen in recognition of his services to the safety movement during his two terms of office.

Washington's official welcome to the Congress was presented by George W. Offutt, chairman of the Traffic Advisory Council of the District of Columbia and past-president of the Greater National Capital Committee.

"The holding of a National Safety Congress in Washington represents the fulfillment of an ambition of many years," said Mr. Offutt. "Washington needs the inspiration of such a gathering."

General Herbert B. Crosby, Commissioner of the District of Columbia under whose jurisdiction come all matters relating to public safety, welcomed the Congress on behalf of the District government.

"We are proud that you have come here," he said. "Every year we send representatives to the Annual Safety Congress to obtain the information needed in the solution of our own problems. We have plenty of traffic problems in Washington."

Following the address of President

Bergquist and the report of the nominating committee and approval of the nominations of directors of the Council, Edward J. Mehren spoke on "Goodwill Dividends from Safety Work." His enthusiastic testimony to the value of safety work as a builder of good will concluded with this earnest warning:

"Goodwill must never be the designed purpose of safety work. It must of its nature be a by-product."

An impressive ceremony at the Annual Meeting was the unveiling of the trophies won in the safety contests conducted by seven sections of the Council. Displayed on the stage of the Wardman Park Theater were 45 large bronze plaques which were later presented to the winners at luncheon meetings of the respective sections.

For the second time in three years the Lehigh Portland Cement Company received at an annual Safety Congress the certificate of merit of the Joseph A. Holmes Safety Association. Dr. Scott Turner, director of the United States Bureau of Mines, made the presentation and reviewed the remarkable safety achievements of the company. Seven plants operated through 1930 without a lost-time accident and six had a clear record for 1931. The Iola plant has operated more than five years, and the Ormrod and Birmingham plants three years without lost time. Of the 14 quarries entered by the company in the National Safety Competition of 1931 ten operated without a lost-time accident. Six have operated three years or more without accident. Lieut.-Colonel

Henry A. Reninger received the certificate on behalf of the company.

With the Annual Meeting, the Twenty-first Annual Safety Congress was under way and mornings and afternoons were crowded with general and sectional meetings right up to Friday afternoon.

Although many of the sectional meetings suffered from reduced attendance two groups found the original meeting rooms too small and were transferred to larger quarters. The Child Education and Aeronautical meetings found this move necessary. At the latter meeting the famous American war ace, Major Edward V. Rickenbacker, vice-president of American Airways, Inc., presided.

The high point of interest on Tuesday was a demonstration of the explosibility of various organic dusts which was conducted at the experimental station at Arlington, Va., by engineers of the United States Department of Agriculture. Planned originally as part of the program of the Food Section the demonstration attracted many of the delegates from other sessions. The demonstration is described in detail in a separate arti-

ON October 7, J. I. Banash, president-elect of the National Safety Council, visited the White House and was cordially received by President Hoover. Here is Mr. Banash's message to members:

This morning I walked into the Executive Offices of the White House and presented my card at the reception desk, having first added the magic words "President, National Safety Council." I explained that I wished to see one of the secretaries of the president of the United States to pay your respects to him and to thank him for the stimulating and inspiring letter which Mr. Bergquist read at the Annual Banquet.

To my surprise and gratification as your representative, the secretary said he felt sure that President Hoover would be glad to receive the Council's greetings from me in person. After several delegations had been received, which did not take more than half an hour, I was ushered into the presence of our president and received a hearty clasp of the hand. His message to you is one of gratification at the tenacity and vitality of the safety movement through these trying times.

Probably the busiest man in the world at the moment gave his wholehearted attention to you and your problems, and I distinctly appreciate the privilege of being able to represent you on this occasion. Only a few moments were available but his personality left such a striking and lasting impression that I wish I could transmit it to each of you individually.

NATIONAL SAFETY NEWS

ele by Dr. David J. Price, who was in charge of the tests.

The Annual Banquet, held on Wednesday evening, combined the usual elements of food, entertainment and eloquence. It was President Bergquist's pleasant duty to read to the assembled delegates the following message from President Hoover:

I will be obliged if you will express my cordial greetings to the Annual Safety Congress of the National Safety Council, and my deep sense of the value of their leadership in the vital tasks of saving human life from the avoidable accidents incident to modern machinery of production and transportation. The work is both wise conservation and wise humanity.

After J. I. Banash, the president-elect, and the other officers of the National Safety Council had been announced, the toastmaster, George W. Offutt, introduced the first speaker of the evening, Dr. Robert Arthur Elwood, founder-pastor of the Boardwalk Church of Atlantic City. The second speaker was a surprise. Introduced as "Count Ernesto Russo, of Milan, Italy," he charmed the audience with his suave eloquence and keen humor and irritated a few of them with his references to American crime. When he responded to the prolonged applause after removing his spurious whiskers and reverting to a plain American accent, the audience gasped. Only a few who had heard the "Count" previously realized the hoax.

There were, however, some genuine foreign delegates at the Congress. Great Britain was represented by three representatives of the Chemical Manufacturers' Association — R. Lloyd Roberts, chief labor officer, Imperial Chemical House and director of the association which directs safety work throughout the United Kingdom; Dr. T. E. A. Stowell, chief medical officer, and P. K. Standring, technical manager of the dyestuffs group.

Commenting on safety work in the United States and abroad, Mr. Roberts said:

"We were sent over here on a special mission. Your industrial accident reports show that you have a much lower rate in accident frequency and also in severity; that is why we have come from London to attend your Safety Congress.

"Mechanically we are just as good as you are, but psychologically, I am sorry to admit, we are far behind you in accident prevention work. One

PRESIDENT BANASH'S SPEECH OF ACCEPTANCE

SINCE Edison's discovery of the incandescent lamp half a century ago, the entire trend of civilized existence has been toward acceleration. This of course means that we have tremendously increased not only the speed of transportation of people and material but also the tempo of production, through the perfection of machinery and the elimination of unnecessary physical effort.

But—has the speed of HUMAN reaction been increased in direct proportion? Has the human mind been geared to respond accurately to these changing physical conditions which have introduced all the new and complicated hazards confronting us today?

Undoubtedly in the course of evolution, nature, in its slow, methodical, but intensely accurate manner, would solve the problem eventually. But before this could happen, countless lives would be sacrificed and human suffering multiplied many times, to a point indeed frightful to contemplate, were it not for the sound thought and intensive effort with which the safety man of today is attacking the problem.

Our ambitions and struggles since the National Safety Council was organized have been directed toward the coordination of these human factors with the increased pace of existence.

While we cannot turn our back on the more or less distant future and the problems it may bring, we must, under present economic conditions, first direct our energies toward holding the ground already gained.

In most sincere appreciation of the great honor you have conferred upon me, let me pledge you, in the words of Carlyle: "Our main business is not to see what lies dimly at a distance; but to do what clearly lies at hand."

reason, of course, is that you have been at it longer; another reason is the peculiar temperament of the British worker. He needs to be told that a little scratch on his finger necessitates a visit to the hospital. He resents it and we have considerable difficulty in making him see that such visits are essential to his physical welfare. On the other hand, in such very vital things as explosions he accepts the mandate of safety because he sees directly that he will suffer.

"We are eight or ten years behind you in our safety work. I would say, but I want to emphasize that it is not going to take us eight or ten years to catch up with the United States. We are attending your Safety Congress to pick your brains and carry back your highly developed psychology pertaining to accidents.

"I think we are a little bit ahead of you on inspection laws. You know that all of our labor legislation is uniform, thanks to the fact that politics

are not allowed to enter into the situation. We have made real progress in medical supervision as it concerns safety.

"Our motor vehicle problem, like yours, is growing fast, but our recent Road Traffic Act will result in a reduction in this field, I am sure. We have excellent support from the British labor unions and they, too, will help us reduce our industrial accidents."

The practice of increasing the capacity of each day at the Congress by means of early morning classes has retained its popularity. This year the classes were devoted to the general subject of safety in foremanship by the conference method, with M. J. Kane, plant training engineer for the American Telephone and Telegraph Company as instructor. The four sessions covered the following subdivisions: Purpose of the Conference Process, Principles of the Process, Its Application to Accident Prevention, and Its Use and Technique.

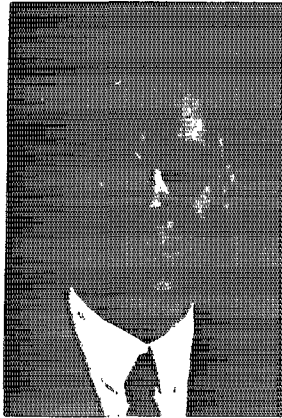
Public safety sessions were held continuously from Monday afternoon to Friday noon under the direction of the Street and Highway Traffic Section. Of more than usual interest to the visiting traffic officials was the three-hour bus tour for traffic observation and demonstrations of the elaborate system of signal controls under the direction of William A. Van Duzer, director of traffic for the District of Columbia. Further hospitality was extended by the District in a luncheon and a dinner for visiting police officials.

Added importance was given the public safety meetings by joint sessions with other organizations. The Eastern Conference of Motor Vehicle Administrators held two meetings with the Street and Highway Traffic Section. One was held in cooperation with the Institute of Traffic Engineers, and the final session was in cooperation with the Executive Committee of the National Conference on Street and Highway Safety.

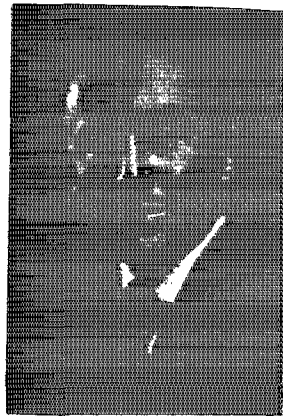
Delegates from Grand Rapids made a strong bid for the 1933 Congress. Their banners and lapel buttons were everywhere in evidence at the Congress. A cordial invitation has also been received from Milwaukee. The selection of the Congress city will not be announced, however, until all angles of the situation have been considered by the Executive Committee.

OFFICERS OF THE NATIONAL SAFETY COUNCIL

— 1932-33 —



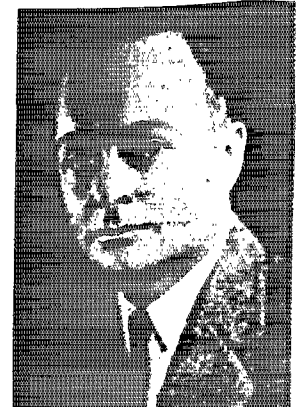
R. I. CATLIN
Vice-President for Public Safety



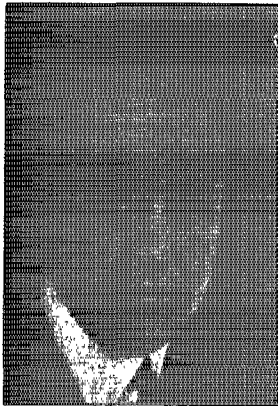
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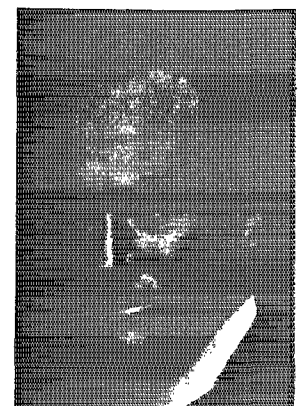
JOHN E. LONG
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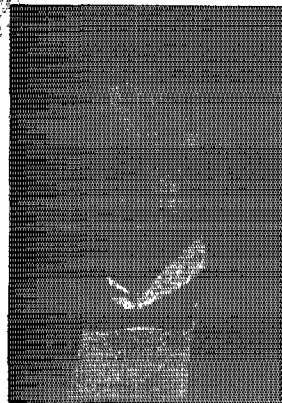
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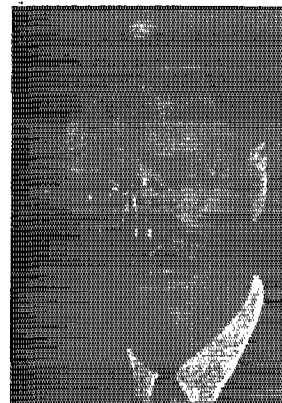
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NATIONAL SAFETY NEWS

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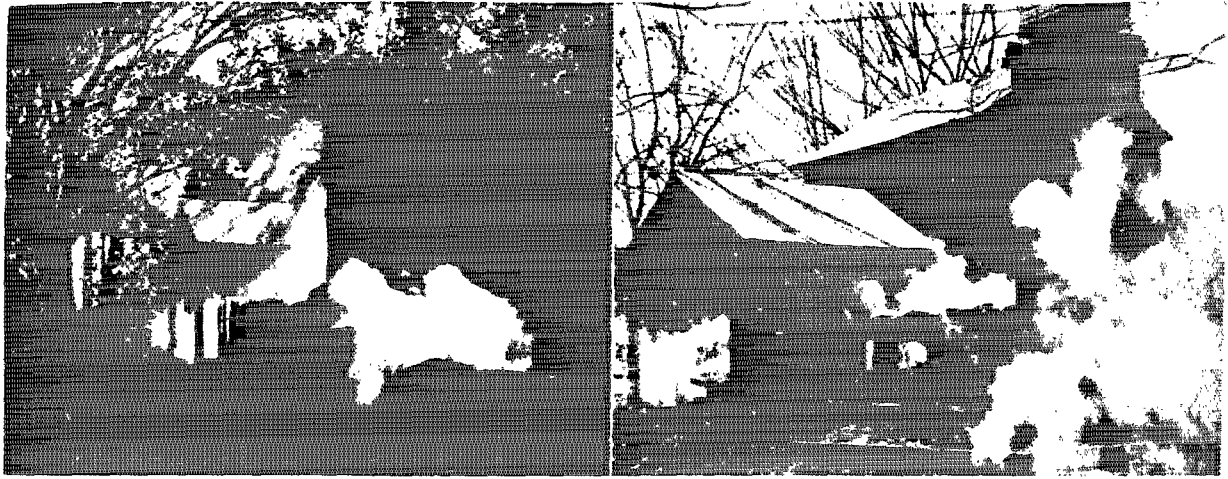
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NOVEMBER, 1932



An explosion of grain elevator dust with adequate venting area. No damage to structure or equipment.

Glass windows in gallery not properly vented being broken by explosion. Flying glass can be readily observed.

Test Explosions Show Menace of Dusts in Industry

By DAVID J. PRICE*

IN THE work on dust explosions and resulting fires in industrial plants the Chemical Engineering Division of the Bureau of Chemistry and Soils has obtained records of 560 explosions of this character. In 184 of these explosions 434 persons were killed and 866 injured. In 449 cases the property loss amounted to approximately \$46,000,000.

The dust explosion hazard exists in about 28,000 industrial establishments employing approximately 1,325,000 persons and manufacturing products of an annual value of more than \$10,000,000,000.

The Department of Agriculture has given special attention to the development of safety codes for dust explosion prevention in grain-handling and manufacturing establishments. The Dust Explosion Hazards Committee of the National Fire Protection Association has been under the leadership of the Chemical Engineering Division of the Bureau of Chemistry

and Soils since its origin. This committee is composed of representatives from the industries directly concerned, insurance and safety organizations, State and Federal officials and construction and equipment engineers. The Dust Explosion Hazards Committee has prepared the following nine safety codes: (1) Flour and feed mills (2) sugar and cocoa pulverizing systems (3) terminal grain elevators (4) pulverized fuel installations (5) starch factories (6) spice grinding plants (7) coal pneumatic cleaning plants (8) wood flour manufacturing establishments, and (9) inert gas for explosion and fire prevention.

These safety codes provide a practical means of translating into actual plant practice the results of research work such as you will see here today. They have been adopted by the National Fire Protection Association and the National Board of Fire Underwriters and have been approved as "American Standard" by the American Standards Association. These codes have been published by the Bureau of Labor Statistics of the U. S. Department of Labor as Bulletin

No. 562, entitled "Safety Codes for the Prevention of Dust Explosions."

It is very gratifying to safety engineers to observe that the losses of life and property in the grain-handling industries as the result of dust explosions have decreased in the 10-year period 1921-1931. The average loss has gradually decreased from approximately \$520,000 in 1921 to about \$28,000 in 1931, a net average reduction of approximately \$500,000. (The records indicate that there were 39 dust explosions in industrial plants in 1931. On the basis of the reduction in loss of \$500,000 per explosion, this would mean a saving of \$19,500,000 in 1931 in property values without any reference to a corresponding saving of life.) The yearly losses have dropped from \$4,160,000 in 1921 to \$1,100,700 in 1931.

The reduction in losses from dust explosions in the grain-handling and associated industries has been due in a very large degree to the splendid cooperation which the Department of Agriculture has enjoyed with all the agencies directly concerned, and with national organizations such as the National Fire Protection Association,

*Principal Engineer in Charge, Chemical Engineering Division, Bureau of Chemistry and Soils, U. S. Department of Agriculture, Washington, D. C. The accompanying article comprises the descriptive statements by Dr. Price at the Dust Explosion Tests held at Arlington, Va., October 4, 1932, in connection with the program of the Food Section at the Twenty-first Annual Safety Congress.

National Safety Council, National Fire Waste Council, National Board of Fire Underwriters, and other similar associations and organizations engaged in explosion and fire prevention.

These tests today have been arranged as a part of the program of the Food Section of the National Safety Council in connection with the Safety Congress now in session in Washington. The tests are designed primarily to show the possibility of releasing dust explosion pressures through properly proportioned vents without structural damage.

The structure in which the dust explosions are produced consists of a room, gallery, and tower. The room, 4x5x5 feet, has a volume of 100 cubic feet. The gallery, 24½x21½x20 feet, has a volume of 125 cubic feet. The tower, 3x3x12 feet, has a volume of 108 cubic feet. Total volume of the structure is 333 cubic feet.

Vents on the room consist of hinged metal doors and pivoted sash. The metal doors range in size from 0.1 square feet to 1.55 square feet and the sash contain approximately 7 square feet of glass.

The gallery has eight roof vents, each 1 square foot in area covered by hinged doors. There are also eight fixed glass windows with an area of 1.3 square feet each. The opening into the tower, which is the full size of the gallery, may be closed when the gallery is used as a unit.

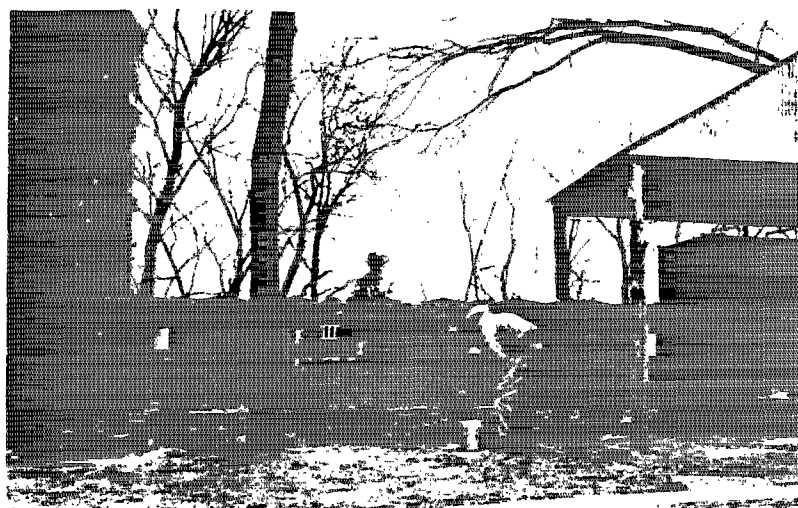
The tower contains one swinging panel about 7 square feet in area, three hinged doors, each 1.55 square feet in area, an adjustable vent on top ranging from 0.1 square feet to 2.75 square feet, and four fixed glass windows with an area of 1.7 square feet each.

Some unexpected breaking of glass may occur in tests designed to show the possibility of preventing such damage through the use of hinged vents. This is due to flaws or strains set up in the glass by successive heating and cooling and does not indicate a lack of sufficient venting area to prevent such breakage under ordinary conditions.

Kinds of Dusts

In these tests grain elevator dust, soap powder, starch dust, milk powder, baking powder, sugar dust, wood charcoal dust, wood dust and cork dust will be used. The program includes 12 different explosion tests.

NOVEMBER, 1932



Engineers setting roof vents and loading dust cups in gallery.

each planned for a specific purpose.

To produce these explosions it is necessary to have dust in suspension in air and a source of ignition. The dust cloud is produced when a jet of air strikes the dust in the cups and throws it into suspension. The dust cloud is ignited by an electrically-heated coil.

Test 1—Grain Dust

Some of the most disastrous dust explosions have occurred in terminal grain elevators in connection with grain-handling and storage operations. The first test, an explosion of grain elevator dust in the entire structure, will show the possibility of venting an explosion without damage.

In this test approximately 17 pounds of dust will be dispersed throughout the structure, which contains 333 cubic feet. This makes a concentration of about 5 pounds per 100 cubic feet. The ignition occurs in the room. The pressure will be released through two openings in the room having a total area of 2½ square feet, three openings in the gallery with a total area of 3 square feet, and two openings in the tower with a total area of 2½ square feet, making a complete total venting area of 8 square feet in the entire structure.

It will be observed from Test 1 that the vents proved effective and neither structure nor equipment was damaged by the explosion. This test indicates the value of adequate venting to relieve the explosion in the primary stage and prevent building up of higher pressures, thereby preventing the explosion from propagating into the secondary stage.

Test 2—Soap Powder

The next test, No. 2, will be an explosion of soap powder in the room alone. A steel door is used to close the opening between the room and the gallery.

Approximately 6½ pounds of soap powder will be used which will give a concentration of 6½ pounds per 100 cubic feet. The ignition coil is placed in the room in the same position as in the previous test, and the pressure will be released through one opening which has an area of about 1½ square feet.

Test 3—Starch

The next test, will show an explosion of starch dust. There have been a number of disastrous starch dust explosions. The safety code for the prevention of dust explosions in starch factories which was developed in cooperation with the industry has proved very effective, and as the result of the adoption of methods of prevention there has been a marked reduction in starch dust explosion losses in recent years. One of the safety recommendations calls for adequate venting of buildings and connecting galleries. The next two tests are designed to show the advantage of providing sufficient venting area to prevent flame propagation from one building to another.

Let us assume that the room and tower are two units of a starch plant connected by a clean, well ventilated gallery. In test No. 3 a cloud of starch dust having a concentration of about 6 pounds per 100 cubic feet will be produced in the room and in

the tower. There will be no starch dust in the gallery and all doors and vents in the gallery will be wide open. The starch dust will be ignited by the electric coil in the room, where no outside vents are provided, and in order that the explosion may propagate from the room to the tower it will be necessary for flame from the original starch dust ignition to jump through the open space of approximately 20 feet, the entire length of the gallery. This test indicates that the primary ignition of starch dust can travel through an open space of considerable length and ignite dust in a nearby building and propagate into a disastrous secondary explosion.

Now let us assume that we have the same two units of a starch plant connected by a well ventilated gallery. Dust has been spilled in the gallery. All the requirements for a disastrous explosion are present. We have the same dust cloud in the room and in the tower and the same ignition. Additional venting has been provided in the room, and we find it impossible for the flame to propagate to the dust cloud in the tower.

Test 5—Milk Powder Dust

Test No. 5 will be an explosion of milk powder in the room alone. The concentration in this case will be about $7\frac{1}{2}$ pounds per 100 cubic feet, and as in the soap powder test one opening with an area of $1\frac{1}{2}$ square feet will be used to release the explosion pressure. This test is being conducted to show the comparison between milk powder, soap powder, and later, sugar dust, under similar conditions of testing.

Test 6—Grain Dust

This test with grain elevator dust is for the purpose of showing the importance of the proper location of vents in relation to the point of origin of the explosion.

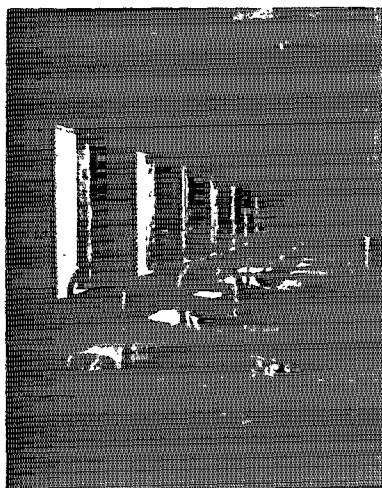
The 8 cups in the gallery will be filled with grain dust, providing a concentration of about $4\frac{1}{2}$ pounds per 100 cubic feet. The door leading from the room to gallery will be closed and the end of the gallery leading into the tower will be blocked. The ignition coil will be placed at the end of the gallery near the room. The gallery will be satisfactorily vented with a small opening having an area of $\frac{1}{2}$ square foot located directly above the source of ignition.

It will be observed from the pre-

vious tests that the slight venting area of $\frac{1}{2}$ square foot was effective in controlling the extent of the explosion.

Test 7—Grain Dust

An attempt will now be made to vent an explosion of grain dust in the gallery through openings at the end opposite the source of ignition. Two openings having a total area of 2 square feet, or 4 times the amount in the previous test, will be used.



Interior view of gallery showing dust cups, air jets, and ledges for "static" or settled dust to represent actual plant conditions.

It will be observed that although a much larger venting area was provided, the fact that it was located a considerable distance away from the point of origin of the explosion contributed to the extent of the explosion. From these two tests with grain dust it can be concluded that there is a very close and important relation between the location of the venting area and point of origin of the explosion.

Test 8—Sugar Dust

The conditions of test No. 8, in which sugar dust will be used, are similar to test No. 2 with soap powder and test No. 5 with milk powder.

The concentration of dust is $8\frac{1}{2}$ pounds per 100 cubic feet. This high concentration is due to the fact that while the same cup loading is used sugar dust is heavier than any of the other dusts used in this demonstration.

Test 9—Wood Charcoal Dust

Wood charcoal dust, the next on our program, will be exploded in the

gallery. The concentration will be $3\frac{1}{2}$ pounds per 100 cubic feet and the ignition coil will be located near the room. No vents will be provided along the gallery, but the end will be wide open.

Test 10—White Pine Wood Dust

This test will be confined to the tower which in this case will represent a storage bin. Eight cups in the tower will be filled with white pine wood dust, giving a concentration of 3 pounds per 100 cubic feet. This is the lowest concentration of dust used in the demonstration. A 20-inch square vent will be provided in the roof. Electric ignition coil will be located at the base of the tower. This test will show the value of proper bin venting.

Test 11—White Pine Wood Dust

Conditions of this test will be similar to Test No. 10 except that adequate venting will not be provided. The cups in the tower will be filled with white pine wood dust as before, but the tower roof vent will be cut down from 20 inches square to 4 inches square. This test will show the result of an explosion where proper venting methods are not provided.

Test 12—Cork Dust

In our final test, cork dust will be used to demonstrate the hazard in an unclean plant and the possibility of an explosion in one section stirring up a dust cloud in an adjoining unit. Special attention is called to the fact that no dust cloud is prepared in the gallery. Dust is placed on the ledges and floor. A dust cloud in the room is ignited, and this explosion stirs up and ignites the dust in the gallery. The concentration of dust in the room is $4\frac{1}{2}$ pounds per 100 cubic feet, and the concentration in the gallery is estimated to be about the same. The only vent provided is at the end of the gallery.

By swallowing pulverized lead a worker in a storage battery factory in Berlin, Germany, tricked the insurance department into paying him 2300 marks indemnity. When he did not regain his health he was examined thoroughly and it was found that he had eaten lead. He confessed in court and was sentenced to two months imprisonment.

NATIONAL SAFETY NEWS

Recording and Using Accident Data

By W. P. ELSTUN*

- * The test of accident data is its usefulness. Select the salient facts and group these in significant tables. Then apply this information to the individual problems of the plant

THE test of the value of accident data lies in the serviceability of the facts recorded. To obtain this usefulness, simplification is essential. To compile data in a simple, understandable form we must realize that there are two classes of information:

1. Essential information — facts necessary for the successful completion of the work at hand.
2. Interesting but non-essential information.

In compiling industrial accident data effort should be made to eliminate all non-essential facts. These tend to obscure the important features.

In establishing a plan, the first step is to set up a routine so that the salient facts on each case are reported. Each industrial organization has its particular job operations, which require special training. Each organization has individual problems from a safety standpoint with regard to design of tools and materials and plant layout. Moreover, the requirements as to information on accidents for the various states differ, and the state's requirements have to be coordinated with your own in preparing the form on which the facts pertaining to each accident are to be recorded.

Reporting the salient facts with respect to each case is only the foundation of the machinery to be established. Periodically summaries of the data which indicate significant trends are required. These summaries may be in the form of tables or presented as graphs. Here again, significant data for one industry might be useless for another. The best results can be obtained by the industrial organi-

zation after a careful review of its own individual problems.

The question next arises as to how these facts can best be used. Probably the quickest and surest way to ruin a well conceived plan is to utilize the data solely for disciplinary action.

When an accident occurs in an industrial organization it is an indication that something has gone wrong with the efficient functioning of that organization. Often the cause is deeper than a superficial review will disclose but a careful study will bring this cause to light. The accident data should be used to strengthen the weak spots: possibly a craftsman needs additional training, there may be opportunity to improve the supervision, a modification of working practices may be in order, but the simple expedient of laying some one off usually will not correct these situations.

The way to establish safety discipline is in the day-to-day contacts on

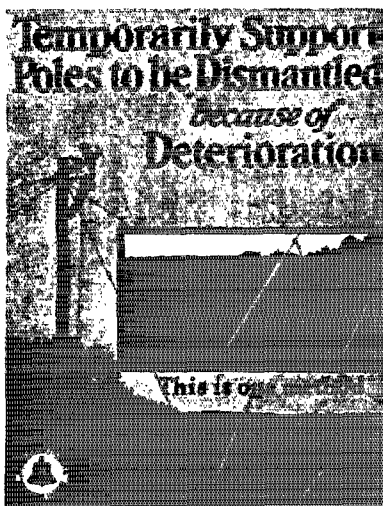


Figure 1. Proper use of ropes for temporary guys to bars in connection with pole dismantling operations.

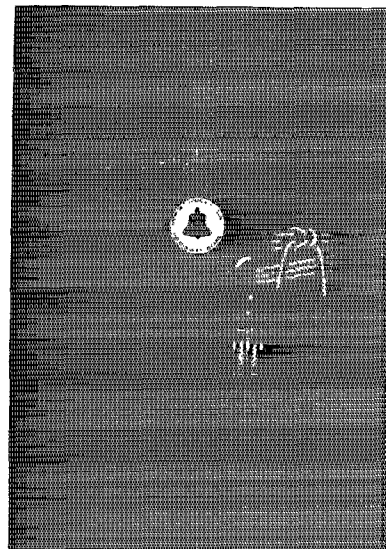


Figure 2. Standard lashings for attaching blocks to poles.

the job, the constant and continuous training in the proper practices, not waiting for an accident to focus attention on something that has probably been done wrong time after time. Penalizing measures after an accident too often are simply admissions of inefficient supervision.

In the Bell System we have a number of classifications for accidents, established for the sake of uniformity in technical and operating terms. These are the classifications:

1. Lost-time accidents. Defined as those accidents occurring in the course of employment which render the employee unable to perform any company work for one full working day or more.
2. Disability assignment accidents. Those accidents occurring in the course of employment which render the employee unable for one full working day or more to perform certain or all tasks of his regular occupational job that might be assigned under normal conditions, but which, on the other hand, permit him without loss of one full working day to perform other tasks.
3. No-disability accidents with and without expense.

A report is made of every personal

*Department of Operation and Engineering, American Telephone & Telegraph Company, New York City. (Abstract of a paper read before the Public Utilities Section, Twenty-first Annual Safety Congress.)

injury occurring in the course of employment and this report is analyzed. The analysis is passed to the proper individual in the organization so that steps may be taken locally to prevent a recurrence of that particular type of accident.

A Safe, Efficient Tie for Guys from Splicer's Platform

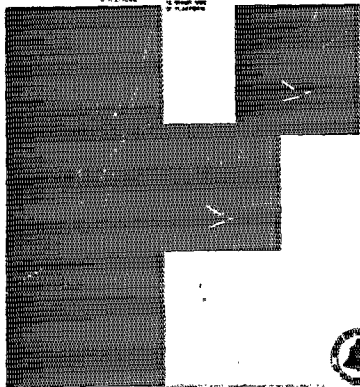


Figure 3. A convenient safe tie for use in attaching the rope guys from a splicer's platform to a pole.

Supervision is charged with the responsibility for efficient production and in the Bell System management has set up three specific requirements for efficiency—quantity, quality and freedom from accidents. Each requirement must be met before any work is considered efficiently performed. The occurrence of a personal injury in the course of employment is, therefore, a possible reflection on the supervision of that particular group, and naturally the supervisory group concerned wants to know the underlying cause to prevent a repetition.

From what I have seen and read, I think that occasionally there is some confusion as to just who is responsible for the analysis of accident cases. There is so much said and written about the investigation of accidents by committees of employees that we may lose sight of the fact that primarily and fundamentally management, and management only, is responsible for the analysis of all accident cases. Naturally, management should and does ask certain employees from time to time to help in bringing to light the facts on a particular case but the responsibility for developing a course of action rests solely with management, and management in the Bell

System accepts and meets this responsibility.

In addition to this local use of the accident data a copy of each lost time and disability assignment accident is sent to New York, where accident reviews and studies are prepared for the use of all. In this way an unusual occurrence in one section of the country is made known to the plant forces in every other section so that on the particular type of work concerned all may set up safeguards to prevent a recurrence. The progress made in the accident prevention effort for the system as a whole is also made known to all concerned through these reviews and studies.

In a large organization like the Bell Telephone System, staff specialists are constantly engaged on developments and improvements. Whenever an accident report comes through the lines of organization that concerns the work of any one of these specialists, a copy of the report is routed to him so that he may study the situation to see whether any changes in design or practices would make the particular operation safer. When any tool, material or practice is being considered for modification, the accidents which that particular tool, material or practice was concerned, are reviewed and studied with the idea of incorporating modifications which will make the particular operations safer and, in consequence, more efficient.

A few specific examples will show how this principle is applied.

A few years ago the System accident data indicated that we were having some difficulty in unloading poles from railroad cars. In collaboration with representatives of the Bell operating companies, the A. T. & T. General Staff found that there were several approaches to this problem:

1. There could be an improvement made in the loading at the point of shipment in order to insure a safer condition of the load when received. This matter was referred to representatives of the Western Electric Company who, collaborating with the transportation companies and the suppliers, were able to materially improve the loadings so that they conformed to the loading rules of the American Railway Association.
2. The transportation companies cooperated wholeheartedly in insuring that the loads were received in satisfactory condition.
3. We modified our standard practices for unloading poles from railroad cars, incorporating a number of safety fea-

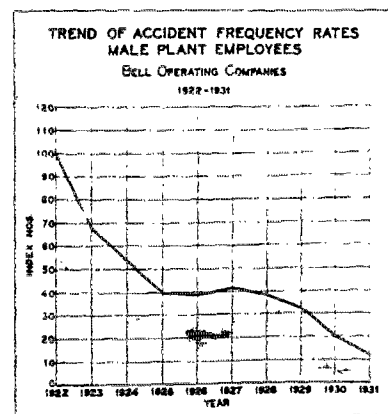
- tures which actually tended to speed up rather than to delay the job.
4. The crews engaged on this work were instructed in the new practices.

The unloading of poles from railroad cars was thus expedited without accidents.

Here is another typical case. A number of years ago we were having difficulties with splicers' furnaces, the maintenance was high and they were concerned in too many accidents. The accident situation was brought to the attention of the development and research people working on this tool who at the time were concerned about the comparatively high maintenance cost. I believe that this is a condition which often occurs if you will search far enough; a particular tool seems to be concerned in too many accidents and when that tool is carefully studied it is found that from the standpoint of quantity or quality of production it is not so good either.

The outcome of the study was that System representatives working with the manufacturers produced a furnace admirably suited to our needs. Instructions on the care, use and maintenance of splicers' furnaces were prepared and each splicer and helper instructed in the correct practices. Not only have accidents been eliminated in this operation but we can heat paraffin and solder faster than before, maintenance costs on the furnaces have dropped and the new furnace provides much longer, reliable service than did the type previously used.

In telephone work there is considerable use made of ladders of various types. We use extension ladders, straight ladders, sectional ladders, step ladders, rolling ladders and a few of other types. The whole ladder situation was very carefully studied, specifications were prepared in collaboration with ladder manufacturers



to insure a safe, high quality product particularly suited for telephone work. In preparing the specifications we met, and because of certain peculiarities of our own work, sometimes exceeded the requirements of the ladder code of the American Standards Association and those of the states.

Careful inspections of ladders at the manufacturers' plants were established to insure that each ladder to be shipped for use fully met the prescribed requirements.

Standard practices for the use, care and maintenance of ladders were developed and each employee whose work involved the use of a ladder was given thorough training in the standard practices. The result of this basic accident prevention work was that accidents in which ladders were concerned have been materially reduced. Efficiency in the use of ladders has been increased.

The accident data are also used as a guide in determining where a special training is required and where special supervisory effort should be directed. For example, if the accident data show that the improper use of a particular tool or the improper application of a practice is concerned in accidents, special review training is given on the proper use of that tool or on the right application of that practice. Supervision is advised to be on the alert to correct any misuse of the particular tool or any misapplication of the practice.

I have not yet mentioned the use of accident data to stimulate friendly competition between companies, areas, divisions, districts and even crews. This use of the data is being made throughout the Bell Telephone System. Without question the placing of accident prevention on a competitive basis has done much throughout the Bell Telephone System to stimulate and maintain the cooperative efforts of the employees. It has been a beneficial undertaking, contributing materially to the reduction in accidents.

I want to mention, however, that this friendly competition must be carefully supervised if the best results are to be obtained. Competition may produce the feeling that the record rather than prevention is paramount. This is quite a natural consequence if too much emphasis is placed on the competition and not enough on the objective of preventing accidents. As a result, it may be found that there is an improved paper showing but that

actually there has been little or no reduction in the number of accidents. This may occur by keeping men on the job who should be at home, by making jobs for injured men which are neither helping the man to full

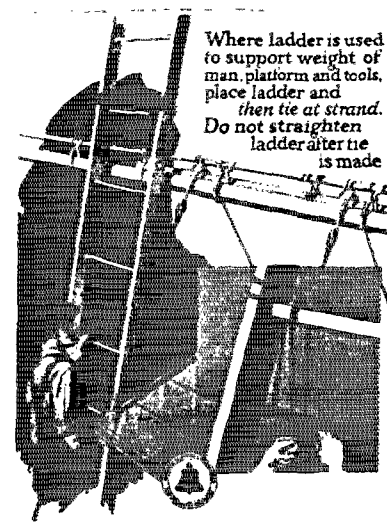


Figure 4. A safe convenient means of lashing a splicer's ladder to the suspension stand.

recovery nor producing for the company. Such procedures are not in the interest of efficient operation and should not occur if all understand the objective.

In every phase of industrial activity it is necessary to set up an objective and then to outline the consecutive steps of procedure which in a given time will permit the reaching of that objective. The prevention of industrial accidents is no exception to this rule. In this planning of the activity for the future it is, of course, necessary to base the program on the recorded facts available and these facts are the accident data.

Each and every feature of the industrial accident prevention activity should follow a coordinated well planned program. When the management decides on the basis of recorded data that additional training on the use of a particular tool or practice is desirable, the standard tool of practice for the operation should already have been developed before the training is undertaken, supervisory attention should be directed to the use of that tool or practice, the posters issued should cover the principal safety features of the operations and each phase of the activity should be carried out on a well planned coordinated basis.

To illustrate what I have in mind, let me refer to a section of Bell System Practices on the Use, Care and Maintenance of Manila Rope and Blocks. In detail this section describes with profuse illustrations just how ropes and blocks are to be used in the various phases of telephone work. It gives information on the care and maintenance of these tool items and covers the features to look for in connection with field inspections to insure safe ropes for use.

I think from these outlines of the uses we make of accident data you will agree that they might be classified somewhat along these lines.

1. Administrative uses under which might be included the programming, and the checking of the accident prevention activity as to progress, costs, etc.
2. Supervisory uses, including the detection of weak spots in the organization's functioning with the consequent application of remedial measures such as additional training, intensified supervisory effort, reassignments, etc.
3. Developmental or engineering uses in connection with which past experience on accidents is applied to the research work on tools, materials and practices.
4. Competitive uses whereby the accident data are employed to engender and maintain the interest of all concerned in accident prevention.

Let us look at the accomplishment from the whole coordinated accident prevention activity as indicated by the chart showing the trend of the accident frequency rates for the last ten years. To me this record reflects particular credit on the plant forces of the System which have so wholeheartedly cooperated with management. But let us not lose sight of the fact that certain factors beyond our control have undoubtedly contributed to the accomplishment. Due to the restricted employment brought about by the changed business conditions there is today a skilled, experienced force working without the press of urgent rush jobs. We are not now faced with the necessity of assimilating large numbers of new and unskilled employees.

These factors, however, do not account for all the improvement made. In better placement of employees, more thorough training of the forces, improved supervision, better tools and equipment and in all of the other features which basically make for a lessening of accidents the foundation has been laid for a continuance of safe industrial operations.

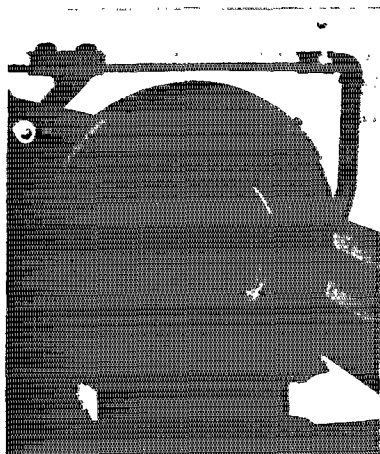


Figure 1. Wheel guard on a cylindrical grinding machine. The cut away portion of the cover provides clearance for projections on some classes of work and allows safe grinding at closer quarters.

ONE of the most important requirements of all grinding machines is safety of operation. If a machine is known or suspected of being dangerous to operate, that machine will never be an efficient unit on the work for which it is designed.

The machine builder, therefore, should provide safety as well as a means of production. A safe operator is more confident and a better producer. He can give all of his attention to the work at hand since he does not have to expend energy, physical or nervous, in avoiding danger from unguarded moving parts. It is good practice to employ every possible safeguard on machinery if for no other reason than to help toward securing steady production. The prevention of damage costs due to accidents, is the basis of a paying investment; and, too, the advantages realized by steady production outweigh the cost of providing safety.

The first point to be guarded in a grinding machine is the wheel. Grinding wheels must be fully guarded to provide protection against rupture if operated at excessive speeds, to prevent accidental contact, to guard against defects caused after the wheels leave the manufacturer and to guard against the unexpected emergency in so far as is humanly possible. For instance, if a wheel is cracked in handling but the crack is so slight that it escapes notice, cen-

*Norton Company, Worcester, Mass.

Safety Essentials in Grinding Machinery

By J. G. THOMPSON*

- Every possible safeguard should be employed, if for no other reason than to maintain steady production

trifugal force will not fail to find this defect and cause the wheel to rupture. Therefore, strong and well designed guards are provided on every type of grinding machine. Wheel breakages do not commonly occur under normal conditions, but are usually the result of careless treatment.

Many types of wheel guards have been developed and used since the need for them was first recognized. In the beginning, they were usually cast iron, cast steel, or a mixture of iron and steel. Modern practice requires that wheel guards be made of higher grade material such as boiler plate. An extremely simple and effective type of guard is made in one piece with a cover of similar material. Examples of such guards as parts of machine designs are illustrated in Figures 1 and 2. Some wheel guards require means for carrying off dust and in Figure 3 is shown an exhaust connection which is designed for attachment to a suction pipe. An efficient exhaust system is an essential safety measure in dry grinding because the breathing of grinding dust is prevented. Machines designed to grind wet do not require exhaust systems because the grinding compound catches the particles caused by the grinding operation and washes them into a settling tank.

Sometimes an operator will work in a dangerous manner without being aware of it, or he may even deliberately ignore such a condition. An illustration of this is in speeding grinding wheels beyond their designed working speeds. This must be prevented by any means possible that will not interfere with proper operation of a machine. For instance, on one make of high-speed grinding wheel stands there is provision for changing the r.p.m. of the wheel as

it grows smaller from wear, consisting of a three-step cone pulley on the spindle. See Figure 4.

When the wheel is worn out, and is replaced by a new full size wheel, it is easy to forget about shifting the driving belt back to the step on the driving cone for a full sized wheel. To prevent this, a mechanism is incorporated in the machine which is connected to the wheel guard in such a manner that when the guard is moved to various positions, depending on the size of the grinding wheels, certain rods and fingers (see Figure 5) operate to prevent the spindle driving belt which connects the motor in the base to the sheave on the wheel spindle from being run on any but the correct step. With this arrangement, a workman cannot operate the spin-

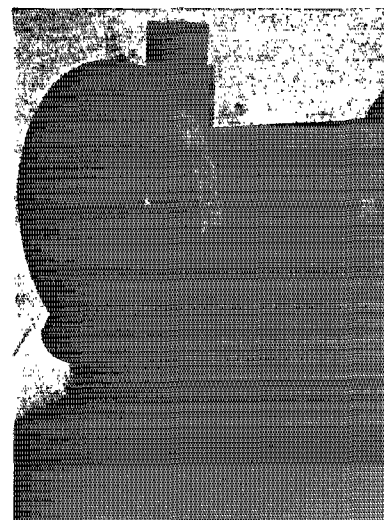


Figure 2. Wheel guard with overlapping cover on grinding wheel stand. The exposed portion of the wheel allows practically every shape of work to be presented to the wheel while providing maximum protection.

NATIONAL SAFETY NEWS

dle at any but a safe maximum speed, thus avoiding danger from overspeeding and at the same time precludes inefficiency from operating at too slow a speed.

Precision grinding machines frequently have provision for two speeds to the wheel spindle. Mechanical means of preventing operation of the wheel at the higher speed is not always provided, but the higher speed, however, while bordering on the danger line does not exceed this point. Operators of precision machinery usually understand the dangers of overspeeding the grinding wheel and avoid doing this for their own protection. The different grinding action noticeable when overspeeding the wheel warns him that he must slow his wheel down to standard speed. Under certain machine conditions, special wheels can be obtained for operation at higher speeds. These conditions must satisfy well established safety requirements with respect to the ability of the machine to run at faster speeds and the type of wheel guard used.

The use, care, and protection of grinding wheels is an extensive subject quite apart from safety pro-

tection obtained from any grinding wheel manufacturer.

The guarding of other moving parts of a grinding machine may be considered secondary to guarding the wheel, but it is only because of lower speeds that the danger may be considered as somewhat less in degree. Smooth surfaces should predominate with no moving parts exposed. Such design readily lends itself to cleanliness as well as safety. The safe shop is a clean shop and a machine of the type illustrated possesses both characteristics to a high degree. Elec-

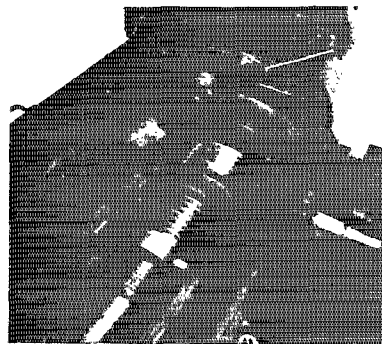


Figure 4. The three-step sheave pulley can be shifted for different speeds only when the size of the grinding wheel allows. In this construction the position of driving belt relative to the machine is always the same.



Figure 3. Overlapping boiler-plate wheel guard and cover with efficient exhaust system provide protection against wheel breakage and grinding dust.

visions in general. For complete details about safe wheel guards, mountings, care and use, the reader is referred to the "Safety Code" approved by American Standards Association. A copy of the code can be

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trical connections, which are a source of possible danger, are adequately protected with substantial armored cables to eliminate the possibility of exposing live wires whereby injury may be caused any one touching them accidentally, or damage caused to electrical apparatus.

There are other features providing for safe operation and prevention of accidents while the machine is doing its regular work. Although the grinding wheel is fully guarded by a substantial steel guard, the wheel has also been tested at speeds far in excess of working speeds in order to eliminate the possibility of breaking from centrifugal force. A portion of the wheel, however, must be exposed to grind work presented to it and in offhand grinding machines the work itself and also the work rest act as guards. Grinding machines so designed that in addition to the work, some part of the machine is interposed between the wheel and the operator which afford an added safety measure.

Another feature of safety in opera-

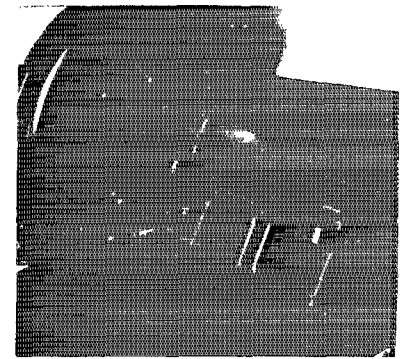


Figure 5. Speed control to prevent overspeeding as well as underspeeding of the grinding wheel. The linkage shown here controls the position of the sheave pulley shown in Figure 4.

tion is the use of safety table dogs. It will be noted in Figure 6 that there are four table dogs. Only two of them actually are required to engage with the table traverse reversing lever which is in the center of the machine. The other two are outside of and adjacent to the regular reversing dogs and are provided to prevent the table from over-running its predetermined length of travel. Should the reversing lever fail to engage with the regular dog, as it can be made to do simply by raising the engaging pin in the reversing lever, the safety dogs will prevent the table from moving beyond a safe limit. The consequences of failing to reverse the table at the proper point would result in either the headstock, footstock, or part of the work striking the wheel and causing serious damage. The safety dogs add to the operator's confidence and make him a better producer because they add to his safety.

Sometimes it is desirable to move the table momentarily beyond the limits set by the operating dogs; but without disturbing the set-up. This is done by raising the pin in the reversing lever, allowing it to pass over the operating dogs and engaging with the safety dogs. An instance is when truing the grinding wheel. In this case, the right safety dog is moved a short distance as indicated in Figure 7 to provide extra table traverse while the diamond is in contact with the wheel. The well trained operator always moves the safety dog back to safe position after the truing operation.

Moisture or grinding compound is usually associated with precision grinding operations and this moisture

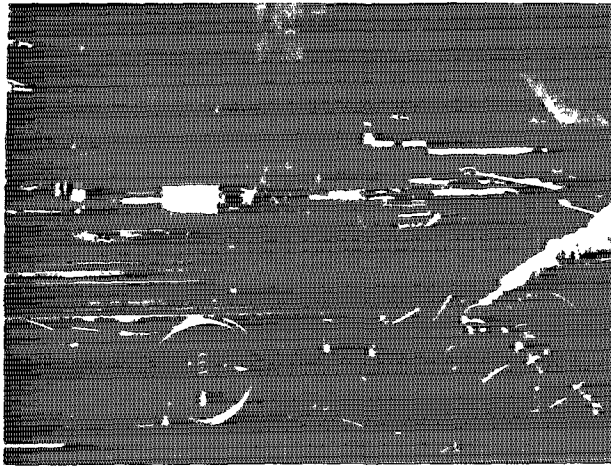


Figure 6. Safety dogs located outside of and adjacent to the table traverse reversing dogs make it impossible for the table to over-run its predetermined length of travel.

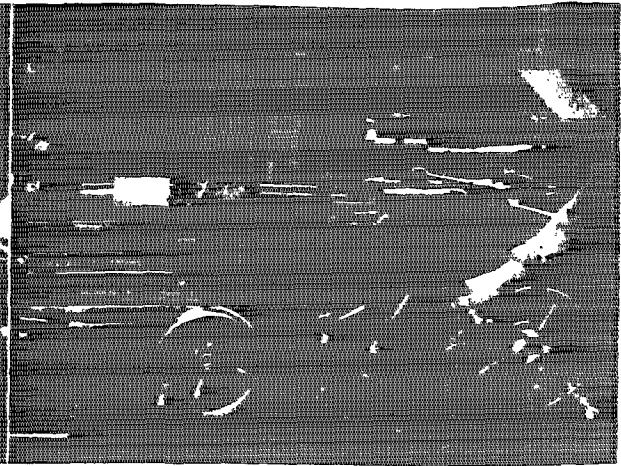


Figure 7. When truing the grinding wheel with the footstock type of diamond tool holder, the safety dog is moved a short distance to the right. The operating dog need not be disturbed because the engaging pin in the reversing lever can be lifted over it.

must be controlled so it will not wet the operator's clothes and his surroundings. Whatever the results may be from wearing wet clothing, it certainly is not comfortable and guards are, therefore, provided to catch the flying spray and confine the compound to restricted paths so it will serve its purpose efficiently. This also is a safety measure although the danger is ordinarily considered as being of a minor nature. The operator's comfort and convenience, however, have a definite bearing on safety.

The reliability of a grinding machine is a safeguard, and is established by faithful performance of its

functions over and over again without variation. The operator becomes accustomed to this unvarying performance and automatically expects it to continue. Once a safe routine is established, it can be followed in security as long as the same conditions exist. If any mechanism failed to respond in the accustomed manner, a dangerous condition would be created immediately because of possible interference with the high-speed grinding wheel. Highest quality engineering ability and material, therefore, enter into the construction of a grinding machine to insure not only production, but permanent safe operation.

Council. It has also awakened the press of the Nation and many public spirited organizations to the seriousness of the accident problem. And I need not tell you that our Council has a world-wide reputation for disinterested service to humanity.

The Council has been encouraged by the continued support and expressions of confidence from our leading industries. Industrial leaders realize that accident prevention cannot be dropped in hard times and picked up when prosperity returns. Not only is the momentum of an effective organization lost but the workers cannot be expected to have confidence in a fair weather program.

I am confident that organized safety work will be more necessary than ever during the next few years. We must not be caught unprepared when the demand for production is heard again. The men who return to work after long periods of involuntary idleness will be in the same position as new workers, perhaps even more susceptible to accident than the youth fresh from school or the farm. Will the equipment be in condition to meet the demands placed upon it without endangering the workers? Will there be adequate supervision and training?

Our streets and highways will be busier than ever and crowded with vehicles capable of even greater speeds than most of these now operating. In every line of human activity there will be increased opportunities for the safety movement. We must be prepared.

The President's Annual Address

(Continued from page 12)

trophe, are often intensely dramatic, but the work of prevention involves much tedious detail. The public is horrified by an atrocious crime or a disaster, but some new sensation appears in the headlines and the shock is forgotten. Statistics are just so many figures to the average person and the announcement that one hundred thousand people meet violent death in a year arouses little or no feeling. No person realizes that he bears any share of the responsibility.

Vast sums have been contributed to research for the control of various diseases, such as tuberculosis, heart

disease and cancer. Yet accidents, although ranking high among the causes of death, have received comparatively little attention from the great benefactors of mankind. Their elimination demands the correlated efforts of the engineer, the physician and the psychologist, but the necessary support has not been forthcoming. Yet in spite of limited resources the National Safety Council has many accomplishments to its credit. It has aroused American industry to a sense of its responsibility for the protection of its workers, and its influence is not confined to the membership of the

Avoiding Accidents with Portable Electric Tools

By H. G. SMITH*

MY SUBJECT may be divided into two parts, safe operation, and safe maintenance; and the phase of safe operation should be discussed under two classifications, mechanical and electrical.

By mechanical safety points I mean those suggested aside from any direct contact with the electrical features. Since the tool is portable, it can be taken almost anywhere, even remote from power sources by the use of extension cords; and for that reason it is possible for operators to get into awkward and sometimes hazardous position in using the tool.

For instance, an operator may hold by one hand to some precarious support, and then, in putting pressure on the tool, suddenly have it break through, causing him to be thrown off balance and lose his hold. It is always well for the operator to be sure of his footing, sure that he will not be thrown off balance by the tool breaking through and also by it sticking and causing the torque of the tool to throw him.

In operating the larger tools on scaffoldings, the operator should be given a sound platform to stand on. The general trend is toward equipping the larger tools with so-called "safety switches," so that removal of the finger from the trigger of the switch will shut off the power at once.

The electric cord attached to the tool should be kept straight and clear of the operator so that he does not become entangled in it. He should always try to place himself so that in case the tool slips or he should drop it, it will not fall upon him with possible injury.

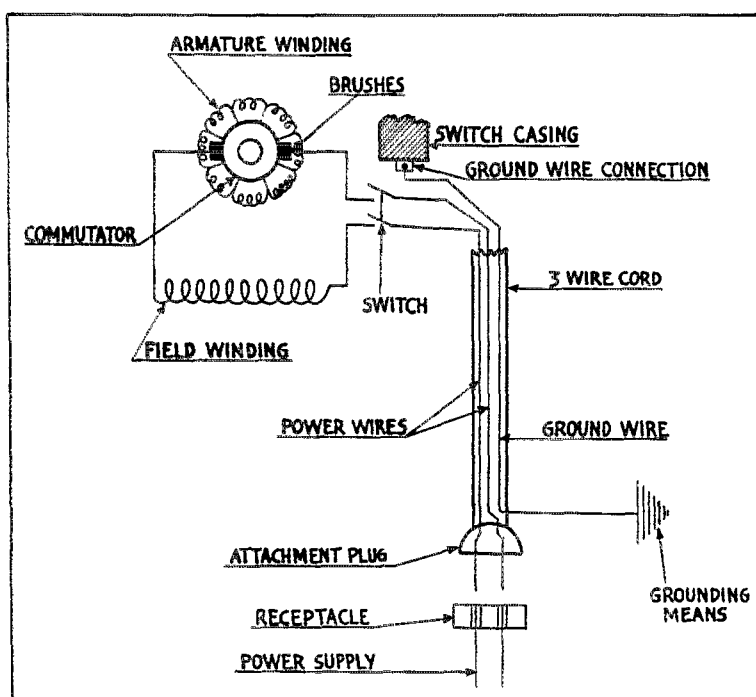
In considering the electrical features, the two outstanding things that can happen are burns due to some part of the electrical circuit of the tool flashing fire, and electrical shock

- * Portable tools lack many of the safeguards of permanent electrical installations but these suggestions will be helpful in making their operation safer

due to grounding of the motor or the electrical system to the metallic part of the tool.

Another danger point is the use of these tools where there is a considerable quantity of flammable or explo-

There are no means for eliminating the possibility of an electric tool causing a flame, but the operator can quickly sense this condition and get away from the tool. The motors in portable electric tools have been much



Drawn by B. B. Ramey, The Black & Decker Mfg. Co.
Diagram of portable electrical drill showing method of grounding.

sive gases. I know of no cases of explosions from this cause, but perhaps the right conditions were not present. The motors in portable tools are a certain amount at the brushes and the switch, and this would set off the right mixture, especially in a confined area. There is, however, little danger in the ordinary garage or factory.

improved over those of earlier days, so that the chances of short circuits and fires are greatly reduced.

The tendency for the windings on motors in portable electric tools to ground is therefore much less than it used to be, but there is always this possibility as long as there is voltage in the tool. The current will try to

*The Black and Decker Manufacturing Co., Towson, Maryland. (Abstract of an address before the Madison County Safety Council.)

get to the ground, just as water tries to reach the lowest level. There is, however, an effective means for preventing this grounding.

This is the addition of a wire to the two power wires in the tool to allow the current, if the windings become grounded, to flow to ground along this extra wire instead of by the body of the operator. The ground wire is permanently attached to a part of the casting, and at the plug end of the electric cord this wire is brought out so that it can be attached to some permanent grounding medium. Sometimes this is taken care of through the electrical circuit by means of a three-pole attachment plug, one pole being for the ground connection which makes contact through the conduit in which the wires are located.

Make Ground Connection First

With this grounding means available, the ground connection should be definitely made before the tool is placed in operation; otherwise the operator is very careless or his employer is very lax on supervision. Conditions might be such that, without such a ground, the operator could be killed almost instantly; and a human life is a dear price to pay for failure to properly ground the tool.

The possibility of death from electric shock is not dependent entirely upon the size of the motor nor the voltage in the power line. It is dependent upon the resistance of the human body, which varies greatly among individuals, and upon the conditions under which a person is working. A man might be killed with a low voltage because he is standing in water or because he is wet with perspiration. Even with the tool properly grounded, it would be foolhardy for anyone to operate it while standing in water.

Let me quote from an article published by the Bureau of Standards a few years ago:

"Accidents and deaths from electrical shock involving ordinary lighting or appliance circuits continue to happen. When compared to the toll of casualties from many other causes, such as automobiles, fires, falls, etc., fatalities from low voltage electrical shock are relatively few. This cause of accident, however, is always present and results in a number of fatalities each year. A study of the conditions that make such accidents pos-

sible will be of use in avoiding them.

"The seriousness of shock depends upon the current and the part of the body through which it passes, rather than directly upon the voltage of the circuit. A current as small as 0.1 ampere, if it passes through a vital part, especially the chest, generally causes a serious nervous disorganization or death. Involuntarily, muscular contraction of the parts of the body affected may be expected from currents from 0.0005 to 0.020 ampere, and currents above these values are generally considered unsafe.

"The resistance of the body from hand to hand or hand to foot with wet contacts may be as low as 500 ohms. In the case of accidental connections with the skin dry or partially dry, this resistance is usually from 5,000 to 50,000 ohms.

"Ohm's law states that the current in a circuit is equal to the voltage of the circuit divided by the resistance (or impedance). Consequently, severe shock may result from potentials as low as 25 volts when connections are the best, involving large areas of wet skin in contact with the circuit so that the resistance is low. The effect of alternating current of commercial frequency may be more severe than direct current when both have the same effective voltage. This may result from a higher instantaneous value of current in the case of alternating current, the ratio of effective value to maximum instantaneous value being approximately 1 to 1.4.

"In addition to moist skin, due to natural perspiration or to surrounding dampness, a second condition is usually present in the case of fatal low-voltage shock. An involuntary muscular contraction follows instantly when a person makes contact with a circuit. If this muscular contraction results in freeing the person from the circuit, the brief interval of contact will be more apt to result in nervous shock than death. However, if this involuntary muscular contraction results in closing the hand more tightly on the 'live' wire or object, or throws the person on a wet floor or against a grounded metallic object in such position as to remain in contact with the 'live' wire, he will be unable to save himself."

The windings of a motor may ground, even though given every possible test, because other conditions may cause the insulation to weaken.

There is smaller chance of the grounding of tools if they are kept clean and dry.

Passing, then, to consideration of maintenance, I wish to point out that the portable electric tool, if properly maintained, will give much better performance and remain efficient for a very much longer period.

The motor should be kept clean to prevent possibility of the windings grounding, and also to allow the cooling air to pass through it properly, thus preventing overheating and burning out. The carbon brushes which carry current to the rotating armature will wear away, but if the tools are given periodic inspection the condition of the brushes can be noted; they should be replaced before they have worn down to a point where the spring back of the brushes can no longer exert pressure, or where, as in the case of the spiral type spring, they are almost in contact with the commutator.

This will prevent undue burning of the commutator and possible expensive repairs. The switch which makes and breaks the electrical circuit is subject to burning of the contacts, because of the arc that is created. But this burning will be prevented by keeping the contacts clean and the moving parts of the switch functioning properly.

Inspect All Cords Carefully

The electric cords used on portable electric tools are especially made to stand considerable rough usage, but after a time there is possibility of the wires breaking. Keeping the cord free of kinks and knots and preventing heavy objects from falling on or being carted over the cord will make it last much longer.

The cord should be carefully inspected along with other parts of the electrical system, because a break in one of the power wires will not only throw the tool out of commission but may also cause the operator a serious burn. The breaking of the ground wire will nullify the provision that has carefully been carried out in making the ground connections properly. It is, therefore, just as essential to see that the ground wire is not broken somewhere in the cord as it is to see that the ground connection is properly made before closing the switch on the tool.

The motor bearings should be kept
(Please turn to page 38)

NATIONAL SAFETY NEWS

Give Them Help—Not Orders

By W. DEAN KEEFER

DEAR BILL: Sure, I've recovered from the Safety Congress! And furthermore, I'm beginning to see results. I wrote my report for the boss, and after he read it, he called me in to discuss it. Then he sent for our chief engineer and we carefully went over the mill data that the speaker presented in his paper. Both of them were pretty favorably impressed, and I wouldn't be surprised if we try out that new plan in our own operations. I'm certainly pushing it from a safety standpoint, and it should be a big money-saver, too.

Of course, there were other things as well—and all together I'm here to tell you it pays to write reports for the "G. M." on trips such as this. The whole thing was a big success, wasn't it, Bill? From all the good things you say about it, I guess no one will have to coax you into going to the next Safety Congress.

Let's see! In my last letter I was talking about safety education, wasn't I? I fully expected to sit down with you at the Congress and discuss the rest of this subject verbally, but since we just didn't get to it, I suppose I'll

• The wise safety man will guide and assist foremen but leave orders for the superintendent, says Shorty

have to write some of it in a couple of more letters.

"Educating operating executives" was to be the next "big idea." The plant superintendent, his assistants, and the foremen! Much that I said about educating the president and general manager applies with equal force concerning the operating men.

Let's first list a few of the generalities in this connection which may be worth remembering.

1. You must get the foremen and other supervisors to make accident prevention an integral part of their jobs. You can't possibly take this responsibility off their shoulders. You must guide and assist them—but not issue orders. Orders should come to them from the plant superintendent only.

2. By the same token, they and not you should get the credit for good safety records which they make in their departments.

3. You must advise with them individually and collectively—but never give them the impression that you think you know it all. If you hit on something new, assume they already know all about it and try to get over the idea that you are simply recalling it to their minds.

4. Don't go directly to any worker on anything of departmental importance unless accompanied by or upon request of that man's foreman.

5. Don't let the foremen ever get the idea that you spy on them or tattle to the "Super" or "G. M." Before reporting a foreman, give him a chance to come through on his own hook. Your best results with foremen will be secured through cooperation—not by swinging the big stick.

Now, after reading those generalities, you no doubt want something practical. All right! Let me tell you how some safety men I know work it. If you want to, you might follow their lead and organize a general safety committee including such men as the manager, superintendent, chief engineer, master mechanic, safety director, purchasing agent, employment manager, company physician, one or more foremen, and one or more workers. The chairman of the committee usually is the member who holds the position of highest authority—and you as safety director should serve as secretary. One object in organizing this committee, of course, is to educate the members in accident prevention, but the group must have specific responsibilities or the men will soon lose interest. Among other things, this committee should:

1. Determine stands for guarding machinery and equipment.
2. Help to formulate safety rules.
3. Investigate accidents.
4. Review safety suggestions and recommendations and decide upon their practicability.

There are some safety men who prefer to have *all* foremen as members

We went over the mill data that speaker presented in his paper.



of this committee so they will all receive equal benefits. Knowing your company as I do, I should advise you to follow that plan, and if you can work it so this group won't be called a "safety committee," all the better.

you if for no other reason than simply to keep their departments away from the bottom of the list on your contest reports.

I won't try to tell you all about contests. Just dig out pamphlet

I'd suggest, Bill, that you do the same thing.

In addition to these things, you should consider the advisability of sending copies of the NATIONAL SAFETY NEWS to the home address of each foreman—or sending selected foremen to next year's Safety Congress—and of handing Safe Practices Pamphlets to different foremen for study and reference.

There probably are many other good ideas for educating foremen and supervisors which I've forgotten to mention—but don't let anyone kid you into thinking that this isn't important. In many respects, it's the most important phase, because the record of a whole department depends to a great extent upon the foreman's attitude toward safety. If he is indifferent, his men will be indifferent. On the other hand, if he is earnest and sincere in doing everything possible to prevent accidents, the men will follow his lead and do their best to avoid injury and to prevent injuries to others, too.

Regards to you and Jane.

Yours,

SHORTY.



Don't let the foremen get the idea that you spy on them and tattle to the boss.

In one plant near Chicago, the boss makes it a practice to call all these men together once a week for a "production meeting," and half of the time of each meeting is devoted to accident prevention. That's really making safety an integral part of the plant operation.

Next to this committee or production meeting plan, I'd say that an inter-departmental safety contest is one of the best result-getters you can think of. I've heard some fellows go so far as to say, "If I were limited to one activity by my boss, I'd abandon everything else and continue our inter-departmental safety contest."

First, of course, you've got to develop a set of contest rules that satisfy the foremen and at the same time give each department an equal chance of winning. Then you've got to perfect some method so you can let everyone know just where each department stands. This ought to be done once a month, or once a week—or even every day. After you get started, you'll find it easier to sell your hard-boiled foremen. They'll work with

No. 74 from the set of Safe Practices Pamphlets and you'll find that explains the whole business.

Just within the past few years, safety men have come to realize that in asking foremen to take full responsibility for accidents which occur to their men, they were "passing the buck to the foremen without giving them a real background of facts and figures which they must have if they are to be successful in their accident prevention work. In other words, there has been a long felt need for specific material which can be used not only to give foremen a better knowledge of the fundamental principles of accident prevention, but also to instruct or remind them of the definite things they must do to prevent accidents. This need has now at least partially been filled by the Council's series of booklets called "Safety in Foremanship." They have been prepared for use primarily through meetings of the conference type. They are being used by a lot of safety men who report excellent results. I'm going to start using them after the first of the year, and

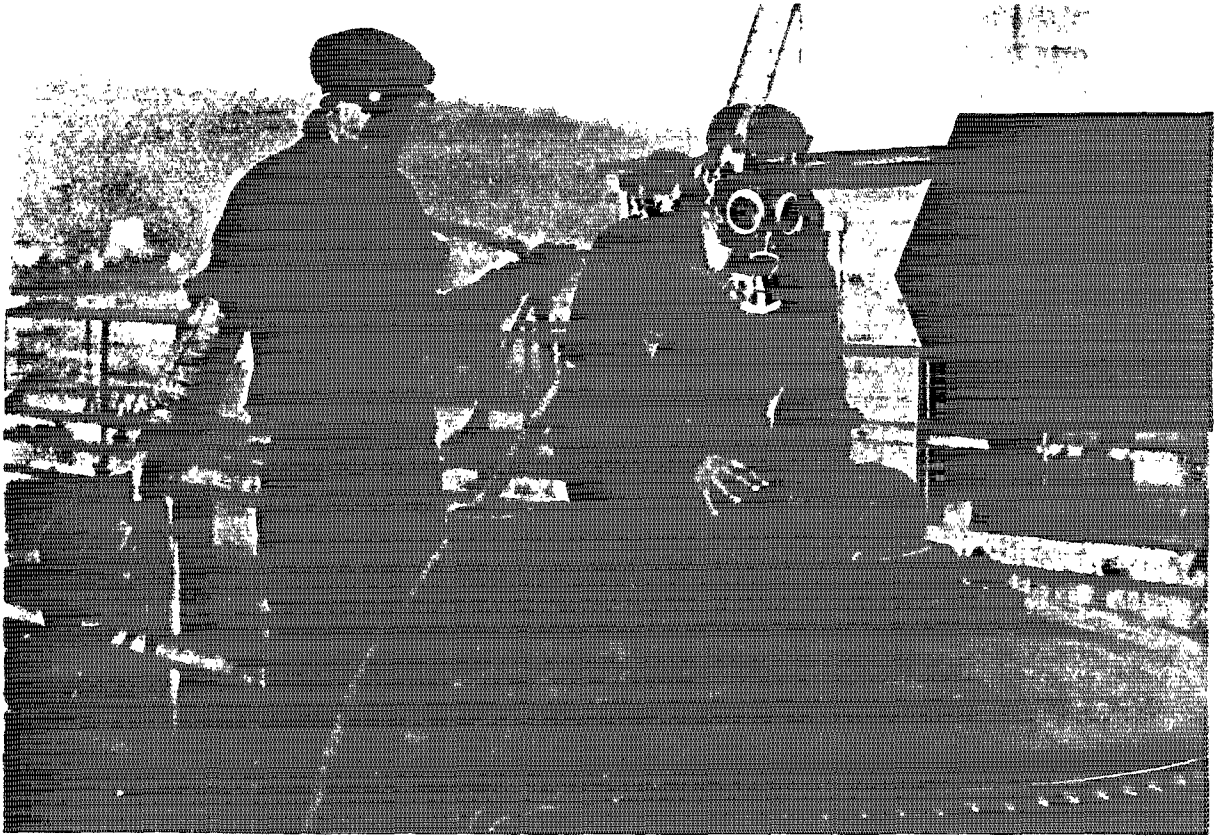
Lightning Protection for an Office Building

AN unusual type of lightning protection is utilized in the recently completed 26-story Lincoln-Liberty Building, Philadelphia, housing on its lower eight floors the new John Wanamaker men's store. Upper floors are used as office space. The building is 474 feet high, and is the tallest in the city aside from the City Hall Tower.

The tower of the structure, containing a huge 17-ton bell, is topped by a lead-coated copper cap, covering approximately 1200 square feet and weighing 1500 pounds. The cap is connected to eight of the steel columns of the building by heavy copper cables welded to the columns. The columns are insulated by concrete fireproofing. At their base, 65 to 85 feet below the sidewalk and far below the water level, each of the columns is grounded by another copper cable bolted and soldered to a 300-square-foot sheet of copper imbedded in the rock. Lightning is thus carried down to the copper sheet and dissipated harmlessly through the rock strata.

NATIONAL SAFETY NEWS

PUT M-S-A HOSE MASKS On Your Safety Program!



HUNDREDS of men have been suffocated and many lives have been lost because workmen, unknowingly, have entered dangerous atmospheres without proper respiratory protection.

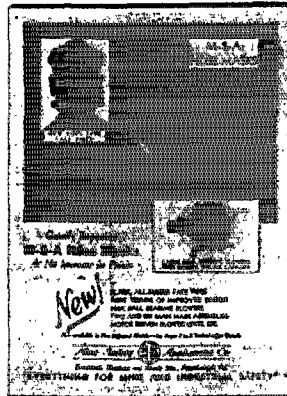
Normal air, which we breathe, contains approximately 21% Oxygen and 79% Nitrogen. When the Oxygen content of any atmosphere, for any reason, falls below 16½%, it becomes hazardous to remain in it for any great length of time without proper respiratory protection. The same is also true in atmospheres containing high concentrations of poisonous gases or of inert gases which may produce an oxygen deficiency.

Put M-S-A Hose Masks on Your Safety Program.

These masks, which are available in five distinct types, are designed to protect men in any atmosphere the flesh can stand. They furnish the wearer with pure, fresh air drawn from outside the danger zone and entirely independent of the atmosphere where they must enter and work.

These masks are particularly applicable for men who enter and work in Tank Cars, Tanks, Vats, Pits, Shipholds, Sewers, etc., where dangerous atmospheres are likely to be encountered.

We have prepared an eight-page booklet descriptive of these masks . . . Write for Free Copies.



Ask for Bulletin No. 66

Mine Safety Appliances Co.



Braddock, Thomas and Meade Sts., Pittsburgh, Pa.

"EVERYTHING for MINE and INDUSTRIAL SAFETY"

The Eyes Behind the Windshield

By ALVHH R. LAUER, Ph. D.*

- A blind man cannot operate a motor vehicle and a driver with seriously impaired vision is an increased accident risk

THE importance of good vision to safe driving can hardly be over-emphasized. It seems that one can drive without the aid of most any other organ excepting eyes. Men without arms have been known to operate motor vehicles successfully by means of mechanical devices used as substitutes. It is very common for a person with one leg to drive a car. Almost as frequently persons with both legs partially paralyzed are found operating cars. It is true that such drivers are an accident hazard unless they compensate by being extremely careful. However, they do drive and have relatively little trouble.

There is no compensation for the absence of vision. A man without eyes simply cannot drive. It is reasonable that impaired vision will decrease driving efficiency and this fact is quite generally recognized. However, the problems of vision are much more complex than the average person realizes. The layman is likely to consider visual disturbances as being too simple. They think only in terms of near-sightedness or myopia, and far-sightedness or hyperopia. In a few cases perhaps astigmatism may be added to the list without any clear idea of what it is like. A few realize that color-blindness exists but it is hard to convince some persons that their vision is different from that of anyone else. Recently, while examining drivers, an elderly gentleman went through our clinic. He was color-blind. The man was asked to read the numbers of the Ishihara test. In the latter, a color-blind person sees one number while one with normal vision sees another. He read the numbers characteristic of a color-blind person, 5, 21, etc. His wife stood by in awe and presently chided him for not naming the numbers correctly. The examiner explained that her husband could not see the numbers she

saw because he was color-blind. She replied, "He is not. He is just contrary like he always is when away from home." And continuing she said to him, "John, you dumb-bell what will these people think of you? You know that isn't 21 but 74." But John couldn't see the 74 which further tried her patience. This incident is typical of how incredible many persons are on matters of vision or other personal idiosyncrasies. If others do not see what they see, or react as they react, it is merely a mental condition. They do not appreciate individual differences.

Specialists in Eye Treatment

Physicians are fully aware of the possible anomalies of vision, but the significance of these conditions is not always appreciated. The average older physician is not trained in psychology and consequently is a layman in this respect. His treatment of psychological and visual problems is often little better than the uneducated woman's concept of color-blindness. Because he may not be trained along such lines, he sees no great importance in them. He understands diseases but not their relation to human behavior. The woman mentioned above understands the general facts of color but in the same way fails to appreciate their effect on different persons. The field of science is so broad that it is quite impossible for any one individual to comprehend and put into practice the best possible solution to all problems. That is why this era is fast becoming known as an age of specialization. Treatment and care of the eye, whether for visual defects or disease, can not be exempted from this category.

For convenience of those who may be interested in studies of vision a data sheet used in our studies of visual defects is reproduced here. The form is by no means as comprehensive as it might be but it does cover in a

general way the types of anomalies which are associated with accident-proneness. This form was outlined by Dr. V. V. Kirby, president of the Iowa Association of Optometrists. It was modified in certain respects to fit our needs. Suggestions were also made by Dr. Arthur P. Wheelock, secretary of the same organization.

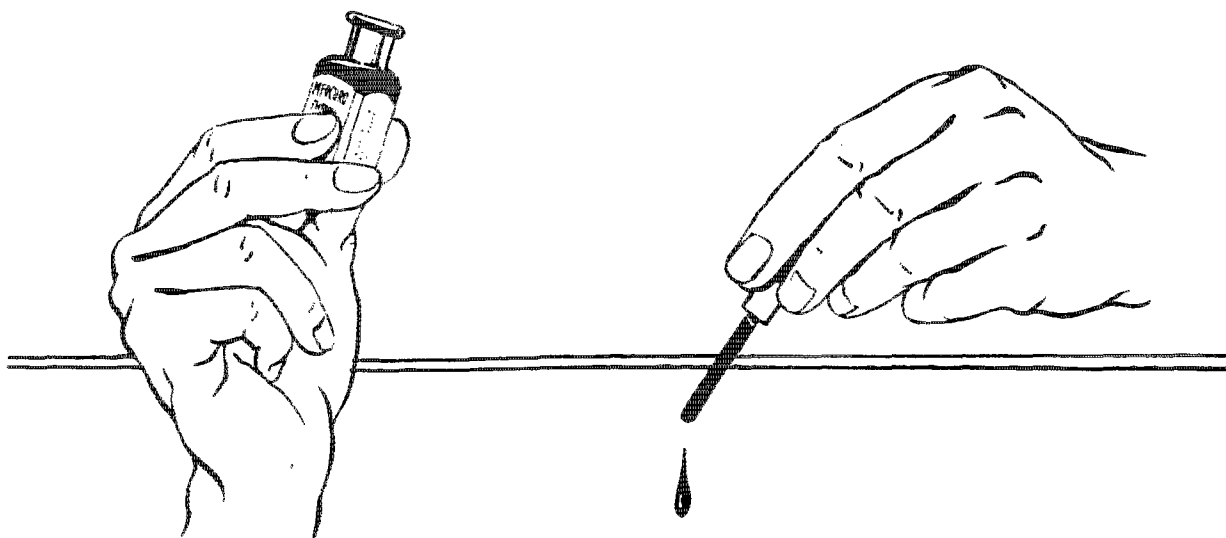
There are three groups of men who are concerned with correcting visual errors. The first group, opticians, are not authorized by law to make eye examinations. Their sole function is to fill the prescriptions of optometrists and oculists.

The second group of professional men are known as optometrists. They complete from three to four years academic training in representative schools and many of them go to Europe for higher studies of applied optics. Vision and refraction of eyes is their specialty in the same way that teeth are the object of specialization by dentists. They number some 20,000 men and women in the United States who represent one of the recognized professional groups. Dr. Charles Sheard of the Mayo Clinic of Rochester, Minnesota, is one of the outstanding authorities in this field. Dr. Edwin H. Silver of Washington, D. C., is another man of high standing in the profession.

Optometrists, as a profession, do not use "drops" or mydriatics in the eye when correcting refractive errors. Their theory is that the eye can be fitted best when in its normal state. Only a few of these men have medical degrees and consequently do very little surgical work as a profession. Pathological cases are referred to the oculists or the physician who has majored in optics.

The oculist or ophthalmologist is a medical man who has specialized in diseases of the eye. There are various opinions among this group but on the whole they favor artificial dilation of the eye when fitting glasses. Surgical specialists of this group remove cataracts, treat glaucoma, enucleate and excise eyes, and perform hundreds of surgical operations in addition to the

*Associate Professor of Psychology, Iowa State College, Ames, Iowa.



MERCUROCHROME IN INDUSTRY

EVEN the smallest scratch may cause infection.

MERCUROCHROME is well known throughout industry and is constantly used as a general antiseptic IN FIRST AID.

Prompt care of all injuries, however small, is essential in eliminating infection.

Remember that in more serious injuries even the most competent layman is not justified in assuming the responsibilities that rightly belong to the physician.

The Coupon will bring you a free applicator bottle.

HYNSON, WESTCOTT and DUNNING,
INCORPORATED
BALTIMORE, MARYLAND

HYNSON, WESTCOTT & DUNNING, Inc.
Dept. S, Baltimore, Md.
Gentlemen: Please send me free Mercurochrome Applicator Bottle for personal use.

Name

Company

Address

.....

.....

FIG. 1
CONDITION OF VISION
(Research Blank)

Vision varies with the physical condition. This examination is indicative but not final. If any disturbance is noted you should have it corrected as a protection to your eyes.

Name Date
Address
Do you wear glasses? Yes..... No.....

		Acuity	
Vision	{ Right eye	Vision	{ Right eye
Without	{ Left eye	With	{ Left eye
Glasses	{ Both eyes	Glasses	{ Both eyes

MUSCULAR CONDITION OF EYES

- | | |
|-------------------|---|
| 1. Orthophoric | (Perfect binocular fixation)..... |
| 2. Exophoria | (Tendency eyes to turn out)..... |
| 3. Esophoria | (Tendency eyes to turn in) |
| 4. R. Hyperphoria | (Tendency R. eye to turn out)..... |
| 5. L. Hyperphoria | (Tendency L. eye to turn out)..... |
| 6. Strabismus | (Actual turning of eyes) In.....out.....up.....down..... |

Field of Vision

Right eye.....degrees. Left eye.....degrees. Total.....degrees.
(Should be 180 degrees. Some have 195 degrees or more.)

Color Vision

Ishihara Test.	Number	12	28	36	45	54	62	76	85	97	100	200	326	442
	Observed													

Other Anomalies or Defects

Cheiroscopic tests	Dominating eye.....	Right.....	Left.....
	Muscles.....	Right.....	Left.....
Glare index	Other Anomalies		
Astigmatic index—In.....	Out		

(Clason Lines)

customary practice of fitting glasses. Of course it is to be understood that not all specialize in surgery. When ocular attention is needed one should understand that there are differences in types of services rendered. Either the oculist or optometrist has professional standing and the choice of services is more or less a matter of preference or need. Both have strong points in their training and practice as was suggested. It is needless to say that there is some jealousy between the two groups, and satisfied clients are a better criterion of their relative merits than any opinions expressed within a profession. There is greater cooperation between the groups now than ever before. Some oculists employ optometrists to do refraction for them, while optometrists refer pathological and surgical cases to the oculist.

These paragraphs have been inserted for the information of executives and safety men who may wish to secure efficient services for a plant. Recognition of such differences should

be of value when selecting men for conducting the regular examinations of applicants and the periodic examinations made during the employment period. Perhaps several part-time specialists would be of more value than one full-time general practitioner

Dangerous Defects

Many visual defects have been found to be associated with automobile accidents. Some of these were not considered important by earlier investigators in the field. Others which were thought to be most important have been found to be more or less unrelated to highway accident-proneness. One of the most troublesome conditions is inequality of the acuity of the two eyes. This condition causes not only a decided strain on the driver but, because of such, ocular dominance is likely to result. In this case, the non-dominant eye is much less likely to respond to stimuli in the environment. For all practical purposes of driving the person has vision in only one eye.

Perception of space is strongly dependent upon binocular vision. Proper evaluation of the distance of an approaching car is of primary importance to safe driving. Perception of movement is also closely related to the acuity of vision since it is a result of successive stimulations of different areas on the retina. It is said that in former times Indians would lie on the back and look out of the corner of the eye to get slight movements of the bushes in the periphery of vision. In this way they could detect the presence of an enemy much sooner than by looking directly at the foliage which concealed the intruder. There may be a different explanation of this fact than is ordinarily given. Form cannot be discriminated well in the periphery of vision. Being dulled to many aspects of the stimulus, movement becomes more noticeable by comparison in this region of the retina. It is merely a question of rivalry of certain aspects of the stimulus and hence becomes a psychological problem.

However this relationship may be, the need for good space and distance discrimination is necessary to safe driving. When one eye is amblyopic this ability is cut down decidedly; at least the normal cues for such discriminations are eliminated and greater concentration of the driver is needed. Use of special stereoscope slides will usually show up this defect.

Another defect which we have found to be associated with accidents is a narrowed field of vision. The average person can see movement over approximately 180° through a half-circle directly in front of him and extending from the extreme left to the extreme right or vice versa. Many with restricted vision do not see movement over more than 80° to 100°. Extreme cases known as "tubular vision" are limited to not more than from 10° to 20°. This defect is related to acuity. If a person has normal vision he has but about 20 per cent acuity at an angle of 5° to 8° to one side. If he has less than normal vision in the mocular field it seems this will automatically limit relative acuity to even a smaller area. We have data on 730 drivers now and more evidence will be available on this point later. The critical limit of visual acuity is also being studied.

Astigmatism, of course, is a type of
(Please turn to page 66)

NATIONAL SAFETY NEWS

Why 1/4 Of A Million Workers Will Receive the 1933 Safety Calendar

1. Because the Annual Safety Calendar has definitely proved that its safety educational value is worth many times the investment.

Even this year it comes in the category of an "economy measure" that is well worth practicing.

2. Because the 1933 Safety Calendar interprets in picture the "Progress of Safety."

It makes clear the meaning of SAFETY and shows it not to be the "brain storm" of "uplifters" but basically a social movement for the happiness, comfort and welfare of everyone. No progress has been made in any mechanical or transportation field where safety has not been considered.

3. Because of the 126 illustrated practical Household Safety Hints for the advancement of home safety.

Never before has such an accumulation of home hazards—the common causes of home accidents—been presented.

4. Because the 12 beautiful oil paintings by the country's leading artists have made this 1933 Safety Calendar the most attractive ever created.

Each painting has been reproduced in full color. All the richness and harmony have been retained.

5. Because of the beauty and strength in which Mr. W. P. Welsh, recognized allegorical artist, has interpreted in the January illustration, his conception of the whole safety movement.

This impelling frontispiece commands thoughtful consideration, which leaves one with a fuller understanding of what safety really is.

NATIONAL SAFETY COUNCIL,—20 N. WACKER DRIVE—CHICAGO

SPECIAL NOTICE: On or About NOVEMBER 20TH is the Deadline Date for Ordering Calendars for Christmas Distribution—Send Your Order Now!

NOVEMBER, 1932



When the Hunters Invade the Woods

**Negligence in handling firearms is the
cause of many casualties each year**

WITH the opening of several hunting seasons and with others to open shortly when some 7,000,000 hunters will go afield in pursuit of their favorite game, the need of care and attention to prevent accidents is vital. The American Game Association of Washington, D. C., has issued a list of "Life Saving Cautions" in the hope that the large number of accidents, when hundreds of people are killed and wounded each year principally through their own negligence in the handling of firearms while hunting, may be avoided.

Common among the causes of fatality and injury are: pulling guns through fences; guns knocked down by dogs; uncased loaded guns in automobiles; accidental firing of guns through bottom of boats, the hunters drowning with the sinking boat; accidental stopping up of the barrels with dirt; leaving obstructions in barrels, cleaning rags, rods and the like; firing guns with muzzle under water;

shooting at movement without seeing clearly; and firing at game without looking beyond it in the line of fire.

"DON'T carry your gun put together in automobiles; wagons, etc.; it's the 'unloaded' gun here that shoots, too! Many states have laws against carrying uncased guns in automobiles.

"DON'T shoot your gun, after putting it together, until you have looked through the barrel or barrels and find it clear.

"DON'T pull guns through fences; carry them over the fence with you, keeping the muzzle pointed away from yourself and others. If a breech loader, open it before crossing.

"DON'T set your loaded gun against a tree or leave it lying on the ground if you have dogs about when you stop to rest; they may knock it down or step on it.

"DON'T lay your loaded gun down in the bottom of a boat; picking it up sometimes causes it to discharge

accidentally and shoot the bottom out.

"DON'T shoot your gun after falling, climbing a bank, or walking over newly plowed ground until you have examined the barrel and find it clear.

"DON'T let your gun muzzle point toward water for, if the gun is fired with muzzle under water, it will explode in most cases.

"DON'T shoot at movement—it may be a man, cow or other livestock. Besides, every sportsman not only wants to see his game, but hit it in a vital spot.

"DON'T shoot at game until after you have assured yourself that no other living creature, house, barn or other such property is in the line of fire."

Portable Electrical Tools

(Continued from page 30)

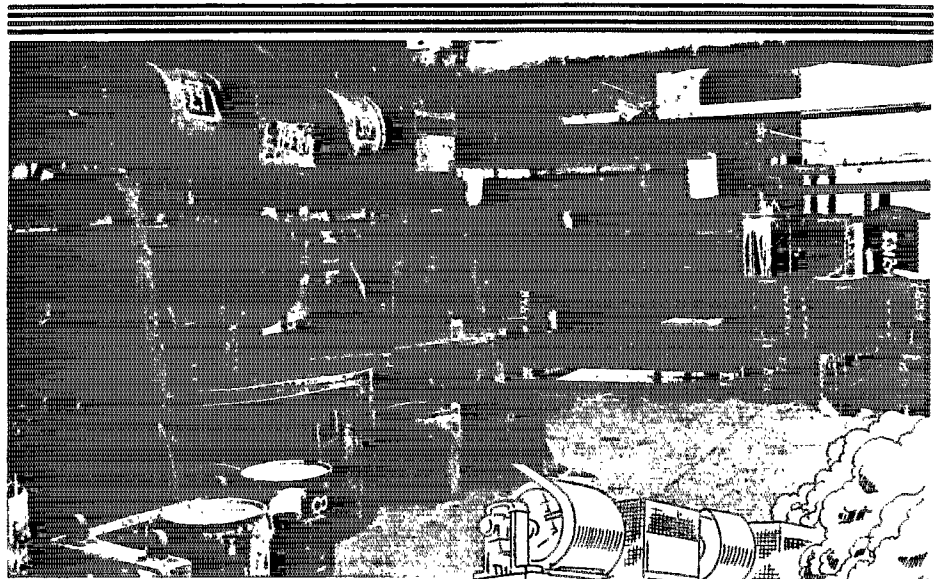
clean and sufficiently lubricated. If the bearings wear excessively they allow the rotating part of the motor to rub on the stationary part and cause considerable damage. A small amount of lubrication on the bearings is, of course, better than none at all, and also better than too much; excessive grease or oil will get on the motor and cause burning and possible grounding.

The gear train of the portable electric tool is made up of gears of special alloy steels, heat treated, and these are mounted on spindles which rotate in bearings. These gears, because of their hardness, generally wear very little, provided grease is kept in the gear housing. Periodic inspection of this housing, and replenishing of lubricant when necessary, will mean that the gears and bearings will last indefinitely and not become noisy. If the gears or bearings wear, the tool's efficiency is greatly reduced.

It may be considered that the tool holder or chuck is an item needing little attention, but this part is often abused by using the tool as a hammer and pounding with the chuck. The chuck has carefully machined parts and heat treated jaws which will last for the life of the tool if not abused. If abused, there is chance of breaking the jaws or jarring them out of line so that the drill bit is not held true. Thus a chuck that is not working properly will cause breakage of drill bits and possible injury to the operator. This part, therefore, should be inspected along with the rest of the tool and repaired or replaced if necessary.

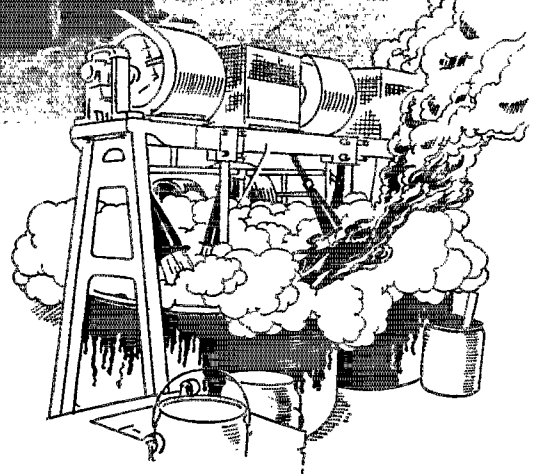
NATIONAL SAFETY NEWS

A Large Lacquer Company Guards Its Investment



LACQUER manufacturing is near the top of the list of industrial fire hazards. A sudden spark near an agitator or a solvent tank may result in a flaming furnace, if the fire is not extinguished in the first few seconds.

LUX "Local Applications," "Total Flooding," and "Portable Units" are especially designed for such hazards, and all others involving flammable liquids or electricity. In case of fire in the lacquer agitators above, LUX gas, pouring from the patented shielded nozzles, smothers the fiercest blaze in from five to eight seconds. Even a fire enveloping an entire storage room will be smothered



ered by a "Total Flooding" LUX System in fifteen seconds. If you have an unusual fire hazard in your plant, send for a Kidde representative. He will gladly explain the LUX System — entirely without obligation.

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

==== LUX Fire Protection =====

FOR ALL KINDS OF FLAMMABLE LIQUID AND ELECTRICAL FIRE HAZARDS

NOVEMBER, 1932

THE BULLETIN BOARD

Conducted by STAN KERSHAW

A page devoted to the problems of the men who
maintain the show windows of the safety movement

Are You Using Home-Made Posters?

FOR certain purposes nothing can take the place of a strictly home-made poster. A member of the force meets with an accident from which there is a good safety lesson to be learned, a mechanic on the job discovers a safe way of performing an otherwise dangerous task, department No. 3 has gone a year without a lost-time accident and a hundred other items call for special bulletins or posters that cannot be obtained from outside sources. They need not be works of art because they relate to familiar names and surroundings and will attract attention, no matter what form they appear in.

If you have not tried this method of pepping up your bulletin boards you have missed a good opportunity.

Safety Posters Help in a Difficult Situation

EVERY man in industry who has any ambition at all is striving to accomplish as much as possible with the time and means at his disposal. Never has this been truer than in the case of the safety man, but there is a limit to what a man can do physically, and if economic conditions have deprived him of manual assistance—well, he just has to use his head to find other ways of keeping up with the parade.

In this search for some agency which may be employed at little or no extra cost to assist in maintaining interest in safety, posters stand out as a beacon light on a dark night. Here are the silent workers for safety requiring very little effort to put them to work and meeting the condition of "little or no extra cost."

If ever there was a time when posters could be used to advantage by every safety man it is now when he

needs to utilize every practicable means of expanding his work to make up for either a decrease of his working force or an increase in his duties and responsibilities.

After all, the real objective in any industrial safety program is to have everyone in the company become truly safety-minded and then to provide helpful information. There are many ways of going about it, but of all these there are none that require so little effort in proportion to the widespread results as safety posters. Even when changed several times a week to keep the bulletin boards fresh and lively the amount of time required to post them in the average plant or company is small yet they work for safety continually. Inspirational posters do much to bring about safety mindedness while the informational type help to build up the knowledge which is necessary to practice it.

* * *

It isn't to be expected that people will go very far out of their way to look at a safety poster. Place your bulletin boards accordingly.

Safety Deputies

IMAGINE for a moment that management gave you 25 deputies who could stand at strategic points in your plant and throughout the 24 hours shout warnings at passersby. One would warn on improper lifting and the danger of infection, another of guards left off machines and poor housekeeping. A third would shout about the hazards of grinding without goggles, ladder dangers and the like. You would get results in short order. Were each man to shout the same warning in the same tone each time you passed, however, effectiveness would soon fly out the window.

So it is with bulletins dealing with safety subjects. There should be a sufficiency of boards, strategically lo-

cated, well lighted and kept orderly. Bulletin material should be changed at least semi-weekly, should not be allowed to litter the space and by a system of numbers the displays should progress through the plant.—*Industrial Safety Bulletin, Augusta, Maine*

Have You a Blackboard?

ONE of the secrets of good bulletin board work is variety of displays. One good way to provide this is to occasionally write a message on a blackboard made to fit the bulletin board. If you do not have one or more of these blackboards on hand a good bet is being overlooked.

Colored chalk can be used to advantage.

Translucent Photos

SAFETY photos may be displayed unusually well if printed on the translucent paper now available and placed against the glass of an internally illuminated display box. The Council's posters may likewise be displayed to good advantage this way. The construction of such a box is a simple job for a tinsmith, or a suitable one may be purchased ready made.

* * *

Two fairly long nails, a hammer and a handful or two of posters open up a new opportunity worth trying. Put the posters together in one pack, nail them to an open bulletin board or wall and chalk a sign over them "Take One Home With You." Use posters on good general subjects of interest to entire families.

* * *

Try a pictorial campaign on that unsafe practice that has been penalizing your records and keep the camera handy to assist in every phase of safety work.—*Paper and Pulp Section News-Letter.*

NATIONAL SAFETY NEWS

**your safety is
often in your
own hands**

NATIONAL SAFETY COUNCIL

**HE TRUSTED
TO
LUCK**

NATIONAL SAFETY COUNCIL

**ALWAYS
SAFETY**

NATIONAL SAFETY COUNCIL

**It's not your Luck.
It's your Judgment**

NATIONAL SAFETY COUNCIL

SAFETY RULES

RULE HERE

NATIONAL SAFETY COUNCIL

**GET FIRST AID
AT ONCE**

**NO MATTER
HOW SMALL THE
INJURY**

NATIONAL SAFETY COUNCIL

**IT TAKES MORE TIME TO
REPORT AN ACCIDENT THAN
IT DOES TO PREVENT ONE**

NATIONAL SAFETY COUNCIL

FATHERLESS

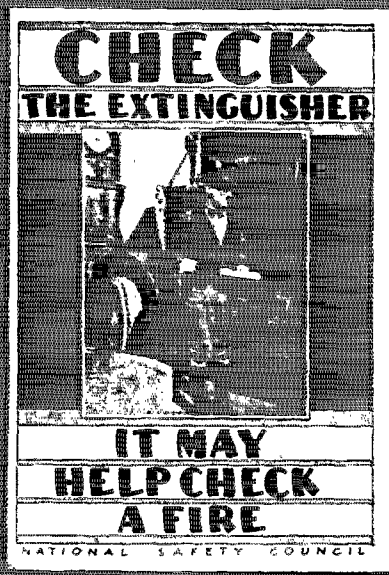
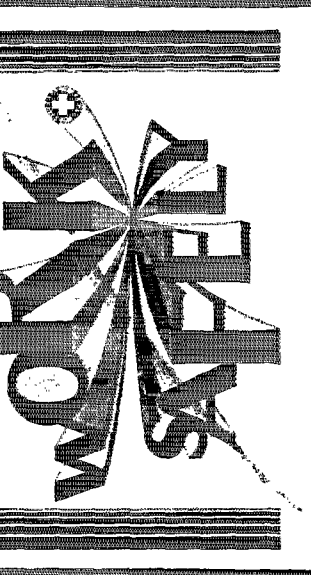
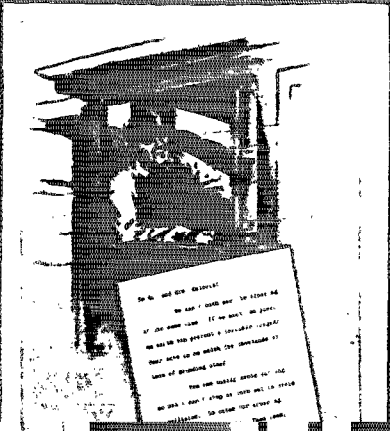
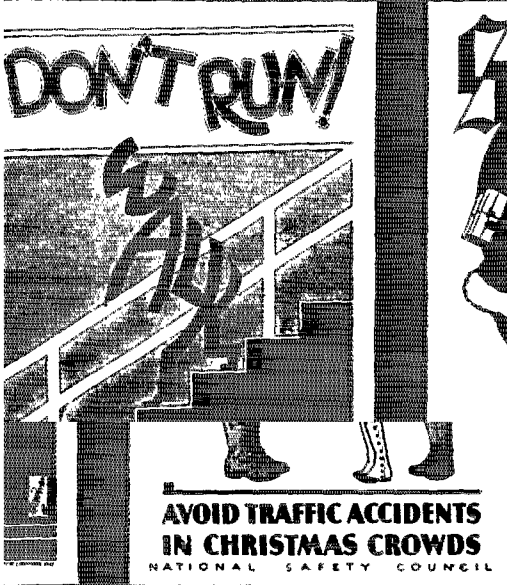
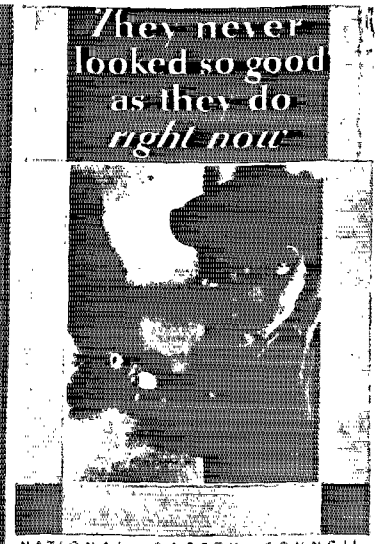
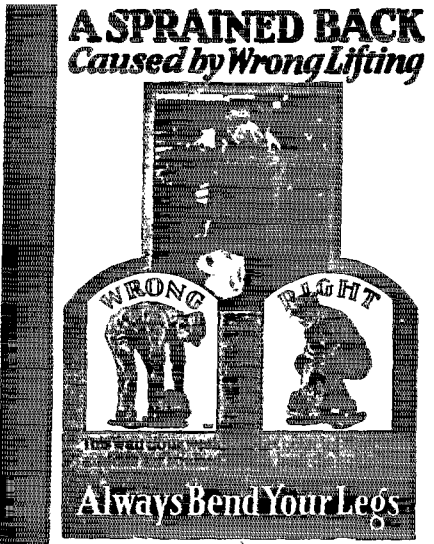
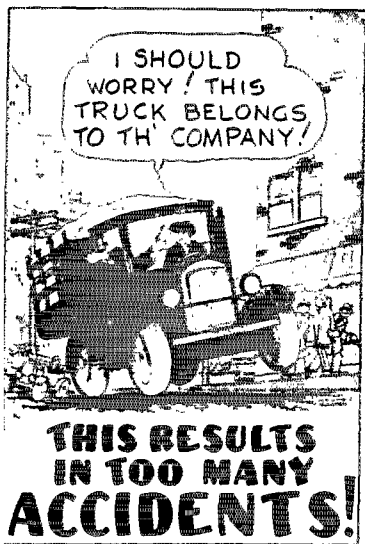
Accidents Steal the Joy from
the Lives of Little Children.

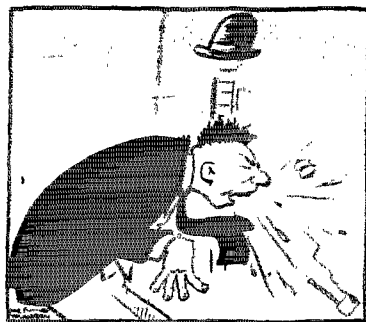
NATIONAL SAFETY COUNCIL

**LIFE
MAY DEPEND
ON THAT HORN**

**MAKE SURE IT IS IN
GOOD ORDER.**

NATIONAL SAFETY COUNCIL





**IF YOU MUST
SNEEZE**
SNEEZE IN YOUR HANDKERCHIEF
IT'S YOURS.
DON'T SNEEZE IN THE AIR -
IT'S EVERYBODY'S!!

NATIONAL SAFETY COUNCIL

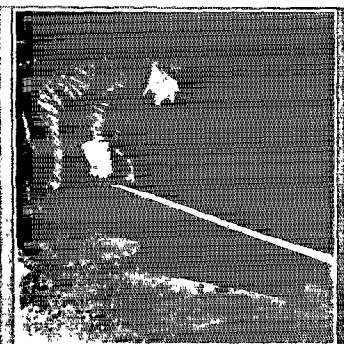


**That safety man
was right -
ACCIDENTS
COST PLenty**

NATIONAL SAFETY COUNCIL



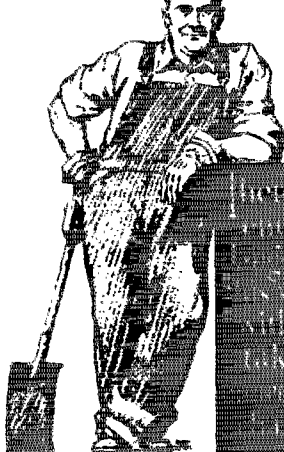
**DON'T
FORGET**
**BE
CAREFUL
TO-DAY**



**IT'S EASIER TO PULL
A HOLE THAN TO
PULL A BUDDY OUT
OF ONE**

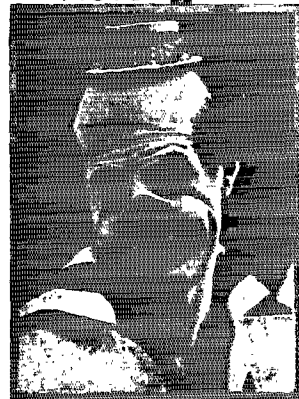
NATIONAL SAFETY COUNCIL

SHORTY SEZ:



NATIONAL SAFETY COUNCIL

**CLOWN
ACTS**



**FUNNY IN THE CIRCUS
DANGEROUS ON THE JOB**

NATIONAL SAFETY COUNCIL

GREEN



Give him a hand - show
the new man how to do
his work the **SAFE** way!
(YOU WERE 'GREEN' ONCE TOO!)

When you wear
torn or loose
clothing

Oh! Boy!

you are dressed
to kill

NATIONAL SAFETY COUNCIL

TRUCKERS

A little care prevents skinned
knuckles and damaged walls



NATIONAL SAFETY COUNCIL

DO YOU...
LIKE TO DANCE.?



THEN DON'T FORGET
TO WORK SAFELY TODAY.

NATIONAL SAFETY COUNCIL

KEEP
TO THE
RIGHT!



NATIONAL SAFETY COUNCIL

MAKE EVERY
WEEK FIRE
PREVENTION
WEEK

NATIONAL SAFETY COUNCIL

Rules for Elevator Operators

You cannot run an elevator properly and safely and carry on a conversation or do something else at the same time.

1. Be sure the gates or doors are closed and locked and that everybody and everything is in a safe position before you start the elevator.

Better a Delay than an Accident

2. Always remember the safe capacity of your elevator and never allow it to be overloaded.
3. When the elevator is a full stop before the entrance to the elevator, stop the car and stand by.
4. Do not go down or up the elevator until the car has stopped and the gates are closed.
5. Do not go up or down the elevator until the car has stopped and the gates are closed.
6. Do not go up or down the elevator until the car has stopped and the gates are closed.
7. Do not go up or down the elevator until the car has stopped and the gates are closed.
8. Do not go up or down the elevator until the car has stopped and the gates are closed.
9. Do not go up or down the elevator until the car has stopped and the gates are closed.
10. Do not go up or down the elevator until the car has stopped and the gates are closed.

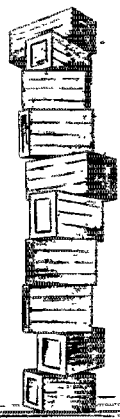
Always remember that your life and the lives of others are dependent upon your alertness, caution, and good judgment.

NATIONAL SAFETY COUNCIL



NATIONAL SAFETY COUNCIL

YOU'RE
PILING UP
TROUBLE
FOR
SOMEONE
WHEN YOU
FAIL TO
PILE
MATERIALS
SAFELY



NATIONAL SAFETY COUNCIL

FALLS



CAUSED
17,000
DEATHS
LAST
YEAR

WATCH YOUR STEP

NATIONAL SAFETY COUNCIL

FOR SAFETY
IF IN DOUBT
ABOUT YOUR
WORK
ASK YOUR
FOREMAN

NATIONAL SAFETY COUNCIL

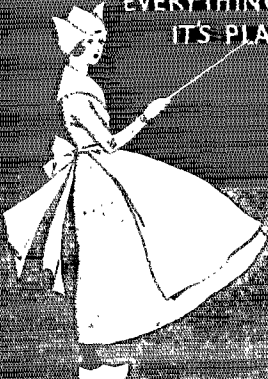
THERE'S NO
TRICK TO IT!



PRACTICE SAFETY EVERY
DAY AND IT WILL SOON
BECOME A HABIT!

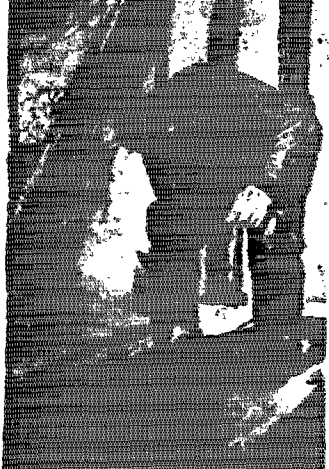
NATIONAL SAFETY COUNCIL

A PLACE FOR EVERYTHING -
EVERYTHING IN
ITS PLACE



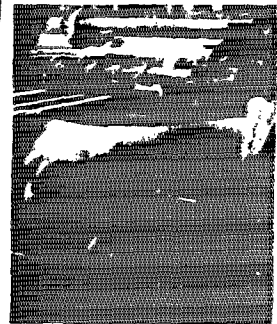
GOOD HOUSEKEEPING
IS GOOD SAFETY

NATIONAL SAFETY COUNCIL



Death Lurks in Rusty Nails

ON SOME JOBS
BRAINS
ARE THE ONLY
POSSIBLE
SAFEGUARD



NATIONAL SAFETY COUNCIL



TELL US

If you see a condition here
that is dangerous, tell us
about it at once. We would
rather have your sugges-
tion now than an accident
report later. - - - -

NATIONAL SAFETY COUNCIL

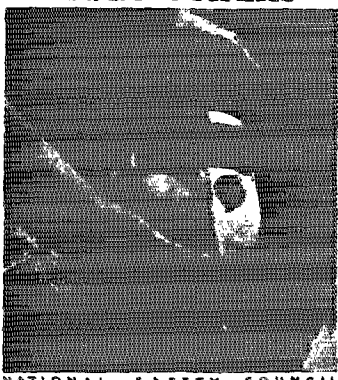


WEAR
**SAFE
SHOES**

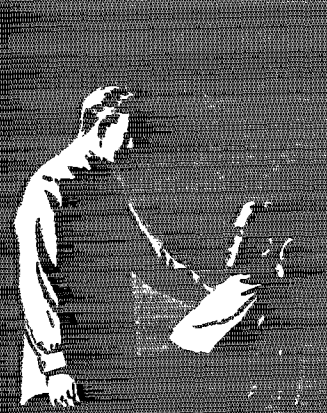
AVOID
THE TRIPPING HAZARD
OF WORN SHOES

AVOID
THE TRIPPING HAZARD
OF WORN SHOES

WHY
DO SOME PEOPLE
HAVE MORE ACCIDENTS
THAN OTHERS



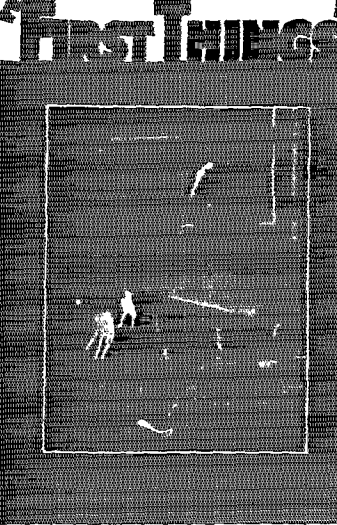
NATIONAL SAFETY COUNCIL



AT LEAST
TWICE A YEAR

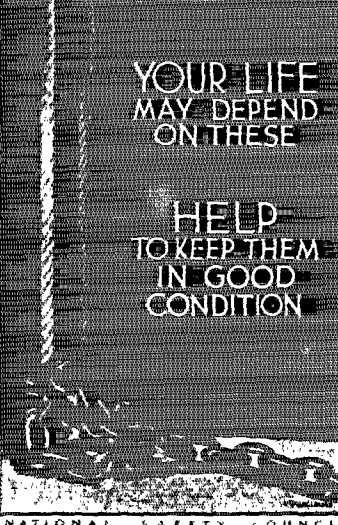
NATIONAL SAFETY COUNCIL

'FIRST THINGS'

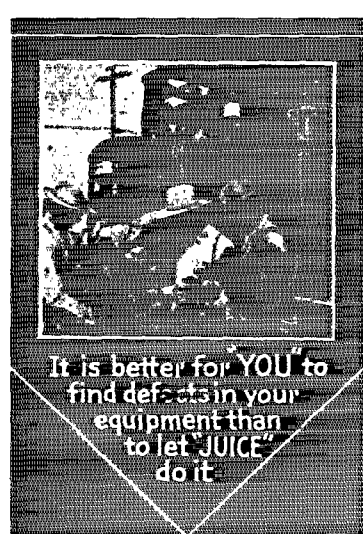
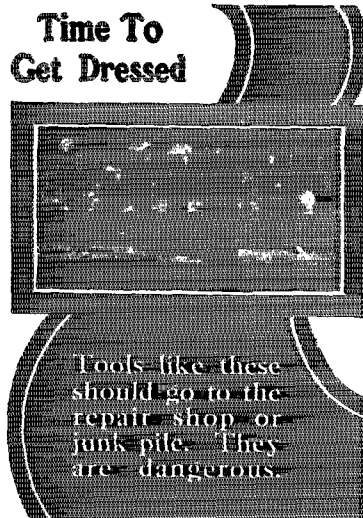
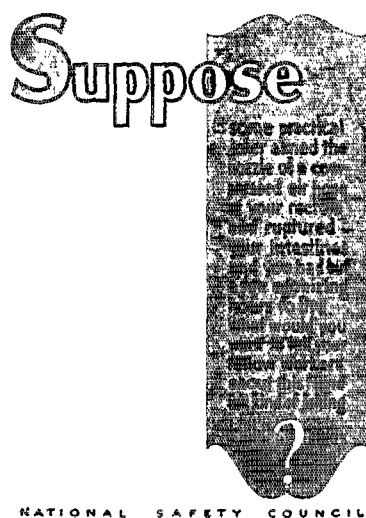
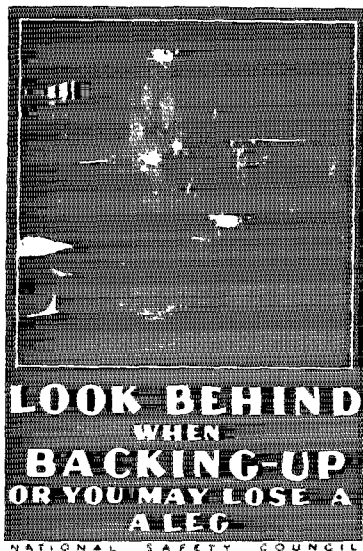


YOUR LIFE
MAY DEPEND
ON THESE

HELP
TO KEEP THEM
IN GOOD
CONDITION



NATIONAL SAFETY COUNCIL



If you don't know
ask the boss!

NATIONAL SAFETY COUNCIL



**SAFE MINER
IS KNOWN_
BY THE____
CONDITION_
OF HIS____
WORKING_
PLACE_____**

NATIONAL SAFETY COUNCIL

CORRECT



*When Opening Valves
Aim Gauge & Reducing Valve
AWAY from YOU*



**ALWAYS
STAND AWAY
FROM LOAD
AS FAR AS
POSSIBLE**

NATIONAL SAFETY COUNCIL

No. 1445

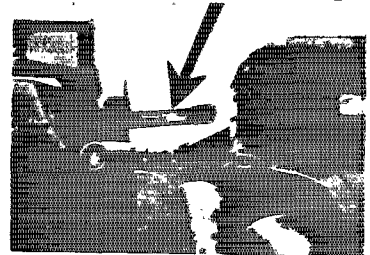
LUCK
*may be with
you for years—
it may
leave you
to-day.*

A man proves his wisdom when he discards luck and puts his faith

SAFETY

Exclusively sold by Kaiser Permanente

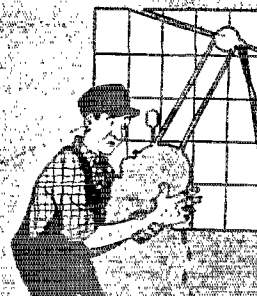
**HOW
WOULD YOU
LIKE TO DRIVE
INTO SOMETHING
LIKE THIS?**



LOAD CAREFULLY!

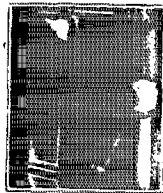
NATIONAL SAFETY COUNCIL

FIRST AID

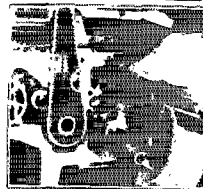


**SHOULD BE
YOUR FIRST
THOUGHT
AFTER INJURY**

NATIONAL SAFETY COUNCIL



When starting machines



**make
sure
no
one
is
in**

DANGER

NATIONAL SAFETY COUNCIL

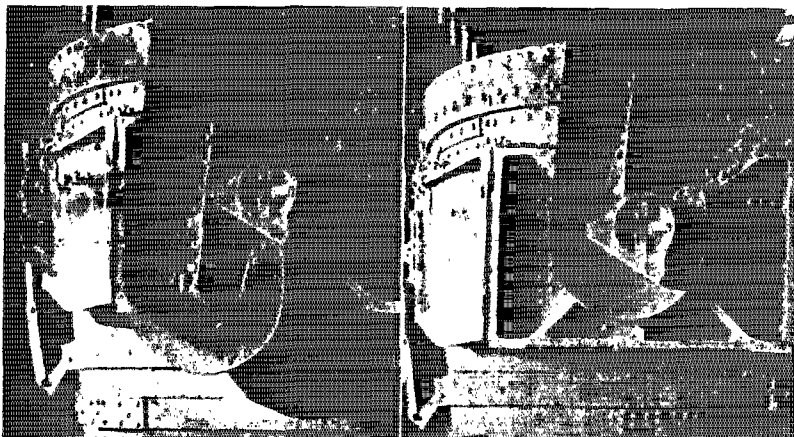
WHOEVER LOADED THIS CAR



wasn't thinking of
SAFETY

THE SAFETY EXCHANGE

"A ROUND TABLE IN PRINT"

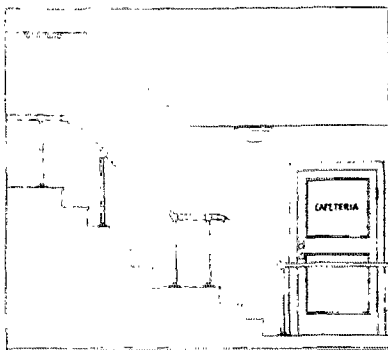


**HOT METAL LADLE TRUNNION
HAS SAFETY FLANGE**

The point of the crane hook cannot catch on the flange of this ladle trunnion. Therefore, practically all danger of the ladle being tilted accidentally by the crane is eliminated. If the hook is not in proper position to engage the trunnion, but instead catches under the flange, the inclined plane of the under side of the flange causes it to slide clear.

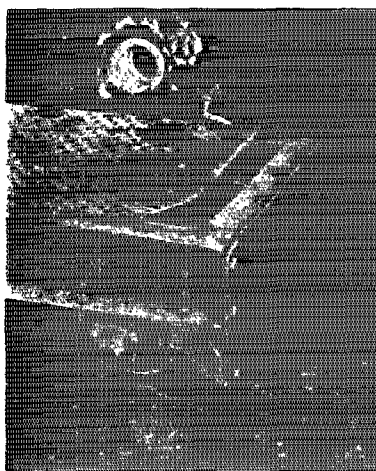
SAFETY PROBLEM OFFERS CHANCE FOR INTERESTING CONTEST

The accompanying diagram shows a "Safety Problem" submitted to persons taking the Coraopolis Safety Course, Cora-



opolis, Pa. The conditions are as follows: 400 men on Floor-A eat their lunch in a cafeteria whose capacity is 300. Lunch time is 40 minutes. A number of accidents occurred on the stairs until certain changes were made. The problem is "What can be done to prevent these accidents?" The width of the stairs is 4½ feet, and the sketch is drawn to scale one-half inch to one foot. An interesting contest might be conducted by making awards for answers to this problem. Eight answers may be made, as follows, the percentage named here being marks of relative value: (1) Make tread of first step same width as others; it is now 2 inches

wider—23%. (2) Make risers of upper set of stairs same height as lower set, 8 inches—23%. (3) Enlarge cafeteria to accommodate 400 persons—19%. (4) Relocate light at top of stairs to give sufficient light and head clearance—10%. (5) Install standard hand railing on inside wall—10%. (6) Install standard hand railing at outside of stairs, height 3 feet, with intermediate railing—8%. (7) Install toeboard, standard 6 inches high—5%. (8) Remove landing, which, although not a hazard, shows perhaps poor engineering—2%. (The sketch is furnished by J. F. Hattman, safety director, Standard Steel Spring Co., Coraopolis, Pa.)

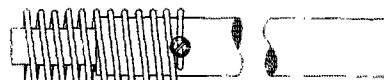


**THIS TRUCK END GUARD ALSO
PROTECTS THE FEET**

The low truck shown here is in use in the plant of the American Manganese Steel Company, South Chicago. The plate bolted perpendicular to the rear end extends low enough to prevent any foreign object from getting under the wheels and causing trouble. It is bolted and braced very rigidly, and not only protects the wheels but the feet of the operator, also.



The ideas presented here have proved helpful. If you have developed a useful device or method send in a description, with sketch, blueprint or photograph, if possible

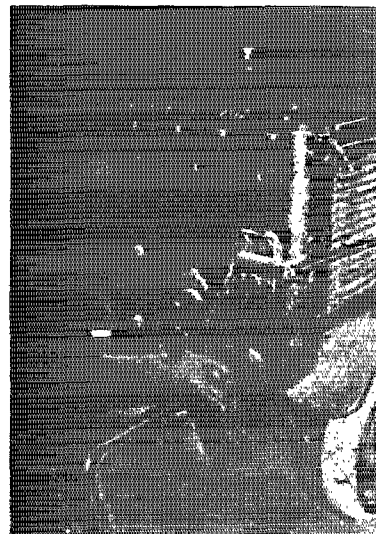


**STARTING BAR GUARD FOR THE
FLY WHEEL**

Serious accidents sometimes occur at the fly wheel because the starting bar flies out or catches and strikes the operator. The Edward Katzinger Company, Chicago, has overcome this trouble by fastening a heavy spring to the end of the starting bar which tends to push the bar out as soon as the pressure on it is released. It does not stay in the fly wheel after the wheel starts. The illustration is furnished by William A. Beck.

AUTOMATIC COUPLER FOR THE POWER TRUCK TRAILER

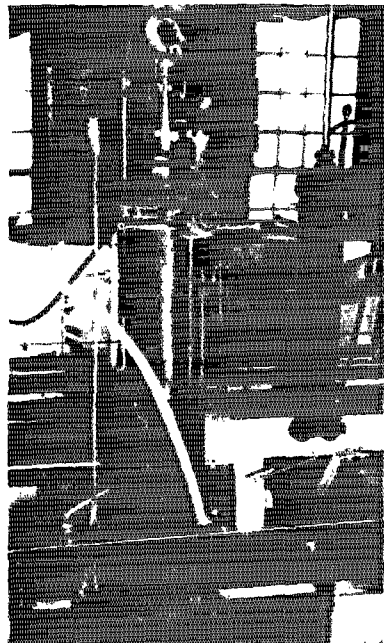
The International Harvester Company has developed and installed on all their power trucks a special safety coupling that makes it unnecessary for an operator to employ his hands in coupling on the trailer. He rides the truck up to the trailer, pulls the hand level, lifts the coupler, and when the truck comes in contact with the trailer he drops the pin and it is automatically coupled, thus eliminating all chance of smashed fingers.



NATIONAL SAFETY NEWS

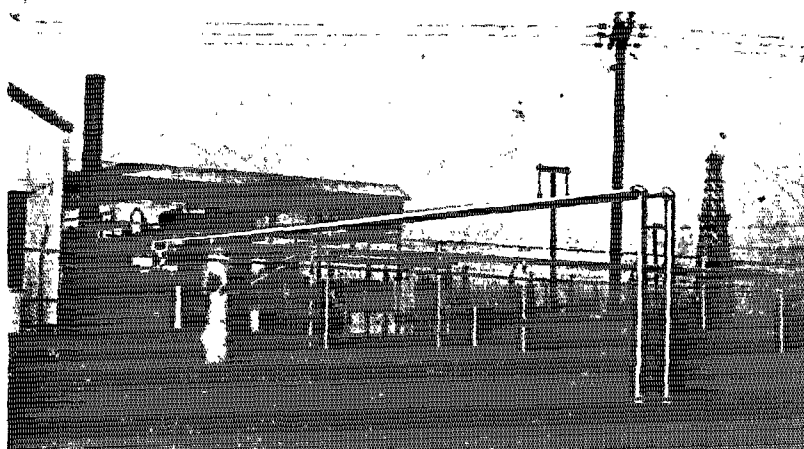
AUXILIARY SAFETY CHAIN ON THE AIR HOIST

A worth while precaution that is not in general use is the provision of auxiliary safety chains on air hoists, to afford protection in the event of a failure of the hoist suspension mechanism. In the accompanying illustration are seen two hoists equipped with these auxiliary chains.

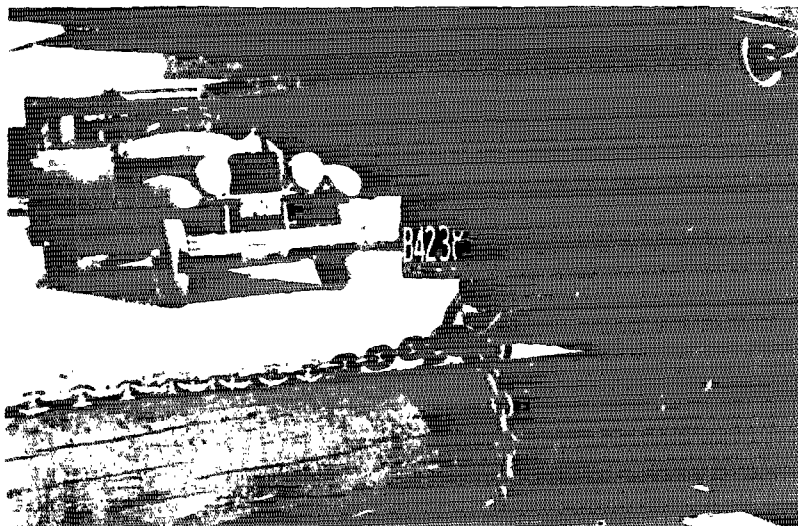


DEVICE PREVENTS ANY FLASH-BACK AT THE OIL STILL

At the oil still a flash-back in case the safety valve were to pop off is a dangerous thing, because the vapors may drift across the front of the fire door. To prevent this at the plant of the Carter Oil Company, Tulsa, Okla., two lines have been run from the safety valve to a point near the ground and sufficiently far away to eliminate the danger. The picture shown here is that of a small still in one of the company's gasoline plants. A further precaution consists of fine wire mesh screen placed over the open ends of the vent pipes.

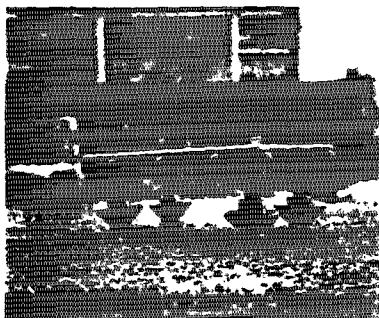


NOVEMBER, 1932



INSULATED LAMP TRIMMER'S STOOL FOR NIGHT WORK

This insulated stool with warning reflector buttons for night work is employed by the Carolina Power & Light Company, Raleigh, N. C. Previous to its use several of their street light maintenance men were run over by automobiles while replacing



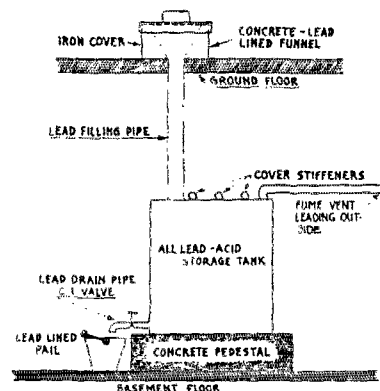
lights or trimming are circuits while lowered in the street at night. Note that the stool now has one-inch red reflectors placed at intervals around the stool base. These reflect the headlights of an oncoming automobile and warn the driver of the obstruction and the man working in his path.

THE SAFE TRANSPORTATION OF LONG POLES

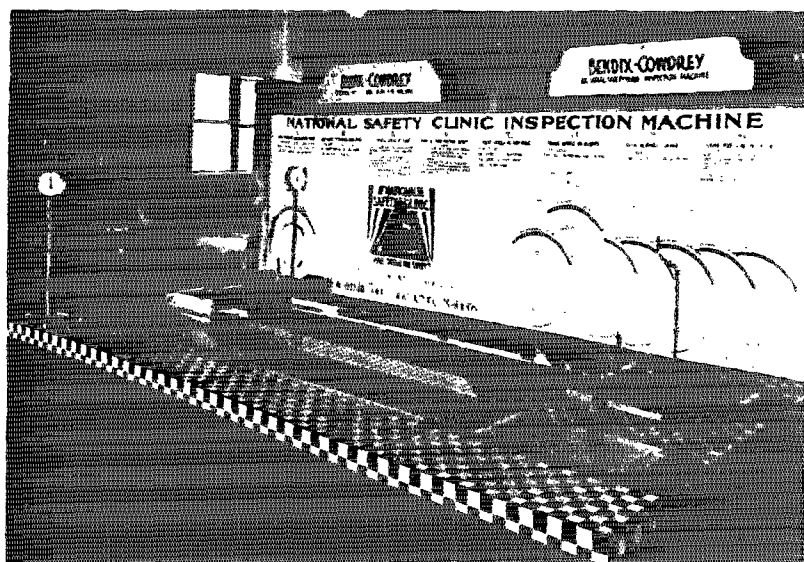
Transporting poles is an important problem in the public utility field. This work must be done with the greatest degree of safety. The illustration shows the method of chaining for transportation which is used by the Malden Electric Company, Malden, Mass. Note that the pole is chained to the trailer hook and the towing eyebolts. The chains passing from side to side of the underframe hold the pole against the truck body, while the chains passing through the trailer hook and around the pole are securely fastened to pull the load. The butt of the pole rests on a two-wheel trailer. Where poles of soft wood are transported in this manner, it may be practicable to place a metal band between the chain and the pole to prevent any abrasion.

AN ACID STORAGE TANK THAT ELIMINATES BURNS

This sketch of a sulphuric acid storage tank is sent us by the Hollingsworth & Vose Company, of Boston. It has helped



to eliminate acid burns to employees who used to have to pour the acid from the carboy into the tank. The size of the tank is 42 inches high by 36 inches square, and there is a cock at the bottom for running off the acid. The tank is made of sheer lead and set on concrete, with an outside vent for the escape of fumes. There is a filling pipe with a platform above.



Defects which make a motor vehicle unsafe are shown by this equipment which tests brakes, wheel alignment and headlights.

APPARENTLY there has been no depression in the development of safety equipment as evidenced by the wide range of new products displayed at the Exposition of the Twenty-first Annual Safety Congress, Washington, D. C., October 3-7.

Practically every exhibitor had something new and interesting to offer. At the American Air Filter Company's booth we found their "Turbo-Clone" dynamic precipitator which serves the double function of blower and dust collector and designed for moving and cleaning air containing heavy concentrations of dust generated in manufacturing and industrial processes. In addition to several other types of air filters, this exhibitor showed a new window ventilator used in treating hay-fever.

Walter Kidde & Company, manufacturers of carbon-dioxide fire extinguishing systems, exhibited a typical automatic system for industrial use, and portable extinguishers, along with three new items—water and anti-freeze extinguishers and light weight oxygen cylinders.

A new skinning knife in the Mathias Klein & Sons' display claimed the attention of linemen. Safety has been considered in the shape of the blade and the "half-hard" rubber handle, which provides insulation and a firm grip. This knife was designed to replace the make-shift and unsafe tools often used by linemen. A complete line of linemen's belts, straps and tools were also shown.

The Lima Cord Sole & Heel Company announced the completion of a development on which they have worked for the past five years. Through the cooperation of the Servus Rubber Company, this exhibitor displayed a complete line of rubber footwear equipped with "Gro-Cord," non-slip soles and heels.

Additional space was required this year by Willson Products, Inc., to accommodate new equipment. Their new dust counting apparatus is a decided innovation in safety equipment. The purpose of this apparatus is to count the dust content in the air to enable the management to scientifically combat dangerous dust and to intelli-

Seen and

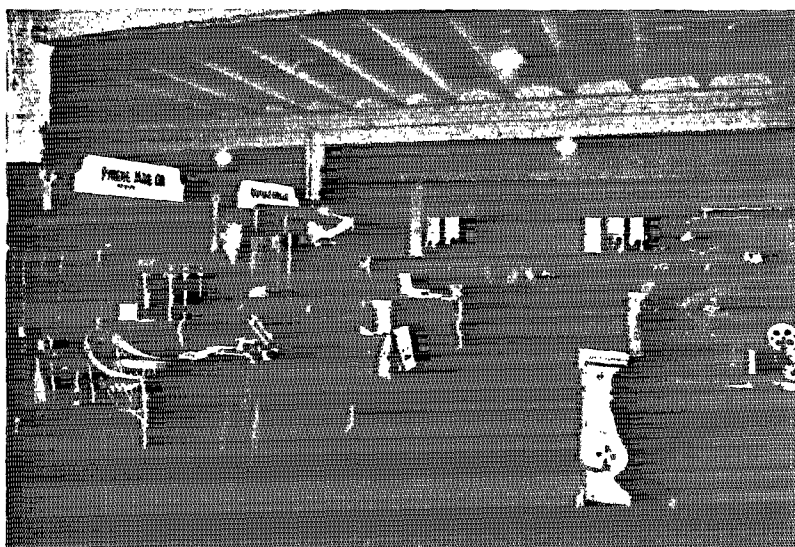
By C. H.

gently protect their workmen. This exhibitor introduced a new line of respirators, a new sand-blast helmet and a number of additions and improvements in goggles.

The exhibit of the National Traffic Guard Company demonstrated the added factor of safety afforded automobile drivers where dangerous curves, high fills, abrupt turns, culvert ends and headwalls are protected with "Resiliflex," a steel highway guard rail.

The "Safety Sander" exhibited by Hawkes & Johnson of Lynn, Mass., was new. This device, which can be attached to all types of motor vehicles, is to provide traction and prevent skidding. The operation is electrically connected with the battery which opens a magnetic valve, allowing sand to run freely by gravity to the ground in front of both rear wheels. This mechanism works from the foot brake and is controlled with a master switch at the dash, cutting out use of sander under normal road conditions.

Mine Safety Appliances Company showed for the first time their twelve new 1932 developments: M-S-A Combustible Gas Indicator, Continuous Carbon-Monoxide Hand Detector, H-H Inhalator, type K; M-S-A Motorcycle First Aid Kit, Type B Saw



Looking down one of the aisles at the Safety Exposition.

NATIONAL SAFETY NEWS

Heard at the Safety Exposition

MILLER

Guard, Safety Shoe, Safety Pac; Edison Electric Safety Top Lamp Model K, Edison Electric Safety Hand Lamp, Permissible Portable Flood Light and M-S-A Mine Car Safety Block. Many other products for mine and factory were shown.

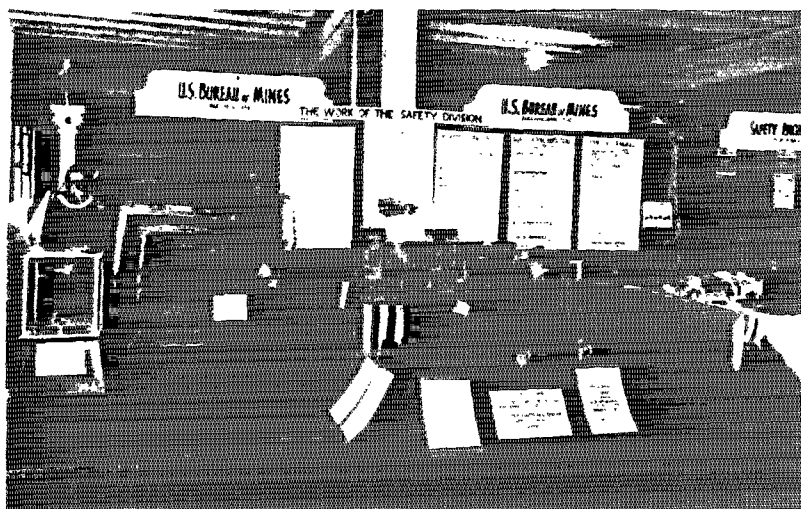
An interesting and significant development in the service branch of the automotive industry was revealed in the National Safety Clinic, a new association sponsored by the Bendix Cowdrey Brake Tester Division of the Bendix Aviation Corporation and featured in their exhibit. This is a nation-wide association of motor vehicle service stations—pledged to improve highway safety through periodic, free inspection of motor vehicles using uniform methods and equipment.

Bendix-Cowdrey Brake Tester Corporation, in conjunction with A. E. Peragen, Inc., developed the safety inspection machine, which was on display, to meet the standards and requirements of this association in testing automotive equipment. Only fifteen minutes' time is required with this machine to inspect the safety factors, such as brakes, axles, springs, steering and steering geometry, lights, tires, etc.

Abbott Laboratories, pharmaceutical manufacturers, had on display a line of first aid products useful both in the home and factory. One of the newer products is Haliver Oil, a natural oil from halibut livers blended with vegetable oils to insure a high vitamin "A" potency.

The latest model in police motorcycles and equipment was displayed by the Harley-Davidson Motor Company. The new silver and black color combination of this model provides distinctiveness for the mounted officer by day and increased visibility at night. The safety guard, for protection of the mounted officer in case of accident and the "ride control" to provide safer operation of the motorcycle at high speed are both new developments. The car is also equipped with a new left side foot-operated siren, fire extinguisher and first-aid kit.

NOVEMBER, 1932



The exhibit of the Bureau of Mines showed how safety is being promoted in the mineral industries.

The sound movie depicting the development and history of safety glass, shown by the Libbey-Owens-Ford Glass Company, kept a crowd at their booth. An exhibit of this kind, showing continuous action, presents a dramatic and impressive sales story one doesn't forget.

Mercurchrome and its uses as an antiseptic was the main feature of the attractive display by Hynson, Westcott & Dunning.

A miniature display showing how a fresh air blower can be utilized in furnishing fresh air for respirator use proved an interesting feature of the Pulmosan Safety Equipment Corporation's exhibit. New air supply respirators, respirators for dust, fumes and vapors, and sand blast helmets were shown.

If any delegate left the Congress with an unsolved safety shoe problem he must have closed his eyes. Seven different manufacturers and distributors of safety shoes displayed their products, ranging from the heaviest work shoes to those which a white collar worker wouldn't be ashamed to wear. H. Childs & Company Incorporated, featured the "Iron Age" line. Chippewa Shoe Manufacturing Company showed for the first time the new "Kushion-Aire" inner sole which is now incorporated in their "Gardtoe" and "Safetoe" shoes.

International Shoe Company sent

two of their engineers to introduce the "Hy-Test" safety shoe of both steel and composition box toe construction.

Lehigh Safety Shoe Company made a very complete showing of their standard steel box toe safety shoes as well as a new lower priced line.

Reece's "Safety Strong Toe" shoe, a new product at Reece Wooden Sole Shoe Company's display was well received. This new shoe has the "Perfect Rocker" wooden sole and is water, heat, acid, steam, gasoline and oil proof. The toe is re-enforced between the vamp and the cap with a non-metallic toe-shaped cap.

Another display of patented steel toe safety shoes was made by the Safety First Shoe Company of Framingham, Mass.

Those who entered the Exhibition Hall were soon attracted by the 36 inch double-ended rotating beacon light in the display of the Aeronautics Branch of the Department of Commerce. This light has a capacity of 1,500,000 candlepower and is of the type placed at ten to fifteen mile intervals along federal airways. The flashing green code beacon, which was shown, is used at some Department of Commerce intermediate landing fields where the use of the larger beacon is not practicable.

American Optical Company showed advance samples of the new "Coverglas" goggle designed to wear over

ordinary spectacles which is fitted with the same ventilation system as found in their "Duralite 50." The progress of eye protection was effectively illustrated by a background of goggles showing successive steps from the first safety goggles down to those of modern design.

A unit dressing for every kind of injury was new at the exhibit of the Davis Emergency Equipment Company. Other first aid products, personal protection apparel, linemen's equipment, gas protection apparatus, inhalators and other miscellaneous products were also shown.

Bulletin board communication from management to employee to eliminate waste, reduce costs through waste elimination, publicize daily happenings as well as promote safety and co-operation characterized the Elliott Service Company's display. New additions to their service include the weekly publication, "Management," a new course in foremanship, and daily posters.

Improved design of linemen's rubber sleeves made by the dripping process and without seams was a new development by the Surety Rubber Company. A new type of leather protector glove for use over lineman rubber gloves, was also shown. This glove is made with a low leakage cuff to resist current.

Guards and more guards were seen at Surty Manufacturing Company's booth. The electrotyper's saw guard which gives protection to hand and eye of operator without interfering with the operation, is new. Considerable stress was put on the fact that the new box-maker's saw guard weighs only half as much as the old guard and is many times as strong. Also special features for non-interference of output are incorporated. Their electric lighted power shear guard prevents possibility of getting fingers under the knife while operator is still holding material. The special lighting feature naturally speeds up the work. A grinding wheel exhaust which carries the dust from the wheel into a receptacle instead of allowing it to pass into the atmosphere, was another device at this display.

Burroughs Wellcome & Co., (U. S. A.) Inc., featured their new 'Tabloid' first aid kit for motorcycles. Medical equipment, surgical dressings and other first aid products were attractively displayed at this booth.

The center of interest at the Safety Equipment Service Company's ex-



hibit was the new "Super Drednaut 50" goggle. Delegates also found many other equipment needs here.

One was reminded of Jacob's ladder dream by the variety of ladders and scaffolding on display. Patent Scaffolding Company showed a miniature building under construction, emphasizing the use of safe scaffolding. John K. Arps Manufacturing Company introduced their new Duo-Safety ladder, a combination step ladder and extension ladder in one piece of equipment.

Another ladder development was shown by The J. R. Clark Company of Minneapolis. Extension ladders and step ladders incorporating a steel truss in every rung.

"Saf-T-Top" ampoules of Mercurochrome and Iodine and "Saf-fast" liquid adhesive for first aid made up the display of Robert A. Bernhard.

Equipment for protection against all fire hazards and tire chains for slippery roads were shown at the Pyrene Manufacturing Company's exhibit.

The U. S. Bureau of Mines exhibit emphasized safety education as an essential to safety achievement. A novel feature was a series of motion pictures depicting the method pursued in giving instruction in an accident prevention course. Interest was shown in a demonstration of the ignitability of explosive gas by minute electric sparks and arcs.

Life size models of men, actuated by an electric motor demonstrated artificial respiration by the prone pressure method. The Bureau of Mines, since its creation in 1910, has trained in excess of 650,000 persons in the principle of first aid to the injured.

Approved types of oxygen breathing apparatus, gas masks, gas detectors and miners electric lamps, suitable for mine rescue work constituted an integral part of this display.

A beautiful display of bronze safety trophies and plaques, recently designed for large industrial organizations, was featured by James H. Matthews & Company, manufacturers of this equipment.

The exhibit of the United States Navy Department, which has been a displayed at several recent congresses, continued to attract interested visitors. Here was a deep-sea diving outfit, a model of a submarine escape appliance tank and a decompression tank. But of equal interest was the evidence that the Navy is a vast industry as well as an organization for national defense. Here also was a bulletin board bearing safety and general interest posters as displayed for the benefit of the works in the yards and shops, and other familiar items used in maintaining interest.

Not all of the exhibits were devoted to mechanical safeguards and equipment for personal protection. The Metropolitan Life Insurance Company's booth contained much helpful literature for industries and communities interested in promoting safety in shops, homes and highways. The National Bureau of Casualty & Surety Underwriters told of the services of the Bureau and its member companies in aiding accident prevention work. The United States Department of Labor had on display a large number of books and pamphlets dealing with specific phases of accident prevention which are now available to those interested.

Vitamins and safe driving were featured in the exhibit of the General Baking Company.

The American Red Cross described pictorially its work in teaching first aid and life saving. *Safety Engineering* magazine was again represented among the exhibitors. The American Social Hygiene Association had much literature showing the menace of social diseases and how industry could help in their control.

The Library and the Education Division of the National Safety Council again displayed the many services available to members of the Council. One of the interesting features on display here was an extensive collection of posters and pamphlets used in advancing the cause of safety in other countries.

Trophies Awarded in Sectional Safety Contests

ONE of the high points in the program of the Twenty-first Annual Safety Congress was the awarding of trophies in the seven divisional safety contests sponsored by the National Safety Council. The trophies consisted of 46 beautiful plaques and a total of 102 certificates, each of which commemorates outstanding achievement in accident prevention.

Six of the contests were held in various industrial sections of the National Safety Council, and the seventh was the National Fleet Safety Contest, originated in 1932, which enlisted large and small commercial fleets of member companies in the Delivery, Taxicab and Bus Section of the Council. The industrial section contests include those in the Marine Section, Metals Sections, Paper and Pulp Section, Petroleum Section, Public Utilities Section, and the Rubber Section. Each contest ran throughout the first half of the year, January 1 to June 30.

The 46 beautiful plaques (which were later awarded to winners of first place in the various contests) were on display during the Annual Meeting of Members of the Council on the first day of the Congress. Both the plaques and the certificates were then sent to the sectional meeting rooms and were presented to the winning companies by a member of the Executive Committee of the National Safety Council.

Marine Section

Thirty-five units were registered in the Marine Section First Annual Safety Contest. 31,871 persons working 34,629,240 man-hours. The average accident frequency rate was 12.619, and 19 units completed the contest with a frequency rate below the average. Five of these units had perfect no-accident records. The units were divided into two divisions.

First place in the Ship Operations and Harbor Equipment Division was won by the Atlantic Coast Line Railroad Company, Norfolk, Va., which had no lost-time injuries and worked through 146,050 man-hours.

First place in the Shipbuilding and Repair Division was won by the New Haven and Hartford Railroad, New Haven, Conn., which suffered no lost-time accidents and worked through 73,009 man-hours.

Metals Section

In the Metals Section Annual Safety Contest 208 units were entered, comprising

approximately 140,000 employees who worked 141,609,804 man-hours, for an average accident frequency rate of 9.194. This represents a 17 per cent decrease over the rate of the previous contest year. During the 1932 contest 105 units completed the period with a frequency rate below the average; 45 of these had perfect no lost-time records.

First place in the Steel Mills Division, Group A, was won by The Corrigan, McKinney Steel Co., Cleveland, O., the record being two lost-time injuries in 1,756,160 man-hours, with a frequency rate of 1.139.

First place in this division, Group B, was won by The Midvale Company, Philadelphia, Pa. They had no lost-time injuries and worked a total of 867,966 man-hours.

First place in Group C of this division was won by the Republic Steel Corp., South Chicago plant, Chicago, Ill., their record being no lost-time accidents, and 592,715 man-hours.

In the Rolling, Finishing and Fabricating Division, Group A, first place was won by The American Rolling Mill Company, Zanesville, O., with no lost-time injuries and 316,081 man-hours.

First place in this division, Group B, was won by the Great Lakes Forging Company, Chicago, with a record of no lost-time injuries and 185,600 man-hours.

First place in the Iron Foundries Division, Group A and B, was won by the National Radiator Corp., New Castle plant, New Castle, Ind., with no lost-time injuries and 247,516 man-hours.

First place in the Steel Foundries Division, Group A and B, was won by the Haynes Stellite Company, Kokomo, Ind., with no lost-time injuries and 144,258 man-hours.

In the Heavy Machine Shops Division, Group A, first place was won by the Lycoming Manufacturing Company, Plant No. 1, Williamsport, Pa., the record being two lost-time injuries, 1,127,915 man-hours worked, and a frequency rate of 1.773.

First place in Group B of this division was won by the United States Rubber Co., Shoe Hardware Co., Waterbury, Conn., with no lost-time injuries and 210,386 man-hours.

Paper and Pulp Section

In the Paper Industry Annual Safety Contest, the trophy for which is provided each year by *The Paper Industry* magazine, a total of 131 mills were entered. Employees numbering 32,454 worked 74,569,954 man-hours and suffered 1,044 lost-time accidents, for an average frequency rate of 14, and a severity rate of .539. Fifty-five of the mills had a frequency rate below the average and 69 mills had a severity rate below the average. Nine mills completed the contest with a perfect record.

In the Paper and Pulp Mill Division, Group A, first place was won by the Consolidated Paper Corp., Ltd., Wayagamack

Mill, Three Rivers, Quebec, Canada. The record was two lost-time injuries, 44 days lost, 1,677,509 man-hours worked, with points credited of 931.436.

First place in Group B was won by The Champion Coated Paper Company, Paper Mill No. 1, Hamilton, O., the record being one lost-time injury, 15 days lost, 1,218,385 man-hours worked, and a credit of 969,568 points.

First place in Group C was won by the Cornell Wood Products Company, Cornell, Wis., the record being no lost-time injuries, and 1,000 points credit.

First place in Group D was won by the International Paper Company, Riley Mill, Riley, Maine, the record being no lost-time injuries and 1,000 points credit.

In the Paper and Board Re-manufacturing Plants Division, first place was won by the Bomis Brothers Bag Company, East Pepperell, Mass., the record being no lost-time injuries and 1,000 points credit.

Petroleum Section

The Petroleum Section Safety Contest had 134 unit companies entered, 146,943 employees working 184,637,293 man-hours. They suffered 1,738 lost-time injuries, for an average frequency rate of 9.413; 54 units had a frequency rate below the average, and 18 of the units completed the contest with perfect scores.

First place in the Manufacturing Department, Group A, was won by the Standard Oil Company of Louisiana, Baton Rouge refinery, Baton Rouge, La., the record being six lost-time injuries, 3,448,784 man-hours, with a frequency rate of 1.740.

In Group B of this division first place was won by the Mid-Continent Petroleum Corp., Tulsa, Okla., with a record of no lost-time accidents, 979,050 man-hours worked.

First place in the Marketing Department, Group A, was won by the Standard Oil Company (Ind.), Chicago, the record being 73 lost-time injuries, 31,736,048 man-hours worked, and a frequency rate of 2.300.

In Group B of this division, first place was won by the Texas-Pacific Coal & Oil Company, Thurber, Tex., the record being one lost-time injury, 1,992,130 man-hours worked, and a frequency rate of 0.520.

First place in the Producing Department, Group A, was won by the Standard Company, Findlay, O., the record being 16 lost-time injuries, 2,276,896 man-hours worked, and a frequency rate of 8.345.

In Group B of this department first place was won by the Hope Construction & Refining Company, Pittsburgh, Pa., with a record of no lost-time injuries and 400,952 man-hours worked.

First place in the Natural Gasoline Department, Group A, was won by the Empire Oil & Refining Company, Bartlesville, Okla., the record being five lost-time injuries, 329,267 man-hours worked, and a frequency rate of 15.612.

In Group B of this division first place was won by The Midwest Refining Company, Casper, Wyo., the record being no lost-time injuries and 255,278 man-hours worked.

First place in the Pipe Line Department, Group A, was won by the Oklahoma Pipe

(Please turn to page 71)

SECTIONAL OFFICERS, 1932-33

THE names of officers elected by the various sections of the National Safety Council to direct sectional activities during the year 1932-33 are published below. Owing to limitations of space it has not been possible to include the personnel of the sub-committees of these sections. These will be published in the sectional news-letters.

The portraits of the general chairmen published in this issue are those which were available at the time of going to press.

Accident Prevention Equipment Manufacturers

General Chairman—R. T. Solensten, Elliott Service Co., New York City.
Vice-chairman—Buell W. Nutt, Safety Equipment Service Co., Cleveland, Ohio.
Treasurer—Allan Clark, Safety Clothing Co., Cleveland, Ohio.
Secretary—Fred Klein, Willson Products, Inc., Reading, Pa.

ASSE—Engineering

General Chairman—H. S. Smith, Union Carbide & Carbon Corp., New York City.
Vice-chairman—S. E. Whiting, Liberty Mutual Insurance Co., Boston, Mass.
Vice-chairman—E. S. Beaumont, Peoples Gas Light & Coke Co., Chicago.
Secretary—W. Dean Keefer, National Safety Council, Chicago.

Automotive and Machine Shop

General Chairman—Carl Storck, Buick Motor Co., Flint, Mich.
Vice-chairman—M. J. McCarthy, Fisher Body Corp., Detroit, Mich.
Vice-chairman—Dr. James H. Greene, Studebaker Corp., South Bend, Ind.
Secretary—K. A. Callam, Kelsey-Hayes Wheel Corp., Detroit, Mich.
News-Letter Editor—Nils Juell, Hayes Body Corp., Grand Rapids, Mich.

Cement

General Chairman—W. L. White, Jr., Medusa Portland Cement Co., Cleveland, Ohio.
Vice-chairman—David Adam, Lawrence Portland Cement Co., Northampton, Mass.

Secretary—A. J. R. Curtis, Portland Cement Assn., Chicago.

News-Letter Editor—Jack Dempster, Canada Cement Co., Ltd., Port Colborne, Ont.

Chemical

General Chairman—John Roach, Deputy Commissioner of Labor, Trenton, N. J.

Vice-chairman in Charge of Program—A. L. Armstrong, Eastman Kodak Co., Rochester, N. Y.

Vice-chairman in Charge of Engineering—G. H. Miller, E. I. duPont de Nemours & Co., Wilmington, Del.

Secretary—Ralph O. Keefer, Aluminum Co. of America, Massena, N. Y.

News-Letter Editor—F. W. Dennis, Hooker Electro-Chemical Co., Niagara Falls, N. Y.

Child Education

General Chairman—Dr. Thomas W. Gosling, Superintendent of Schools, Akron, Ohio.

Vice-chairman—W. H. Bristow, Deputy Superintendent, Department of Public Instruction, Harrisburg, Pa.

Secretary—Idabelle Stevenson, Education Division, National Safety Council, New York City.

Construction

General Chairman—John Russell, Jr., United Engineers & Constructors, Inc., Newark, N. J.

Vice-chairman—W. G. Wheeler, Building Trades Employers' Association, New York City.

Secretary—C. H. Black, Stone & Webster Engineering Corp., Boston, Mass.

News-Letter Editor—J. N. Doyle, James N. Doyle Adjustment Bureau, Montreal, Quebec.

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General Chairman—Carroll V. Wells, Pillsbury Flour Mills Co., Minneapolis, Minn.

Vice-chairman for Delivery Fleets—F. E. Taws, H. J. Heinz Co., Pittsburgh, Pa.

Vice-chairman for Taxicab Fleets—S. S. Greenberg, Maxwell-Davis, Inc., Hartford, Conn.

Vice-chairman for Bus Fleets—Alexan-

der Shapiro, Washington Rapid Transit Co., Washington, D. C.

Secretary and News-Letter Editor—Richard Leonard, *The Taxi Weekly*, New York City.

Electric Railway

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Vice-chairman—T. G. Brabston, Birmingham Electric Co., Birmingham, Ala.

Vice-chairman—Paul Hodson, East St. Louis Railway Co., East St. Louis, Ill.



John Russel, Jr.



Henry J. Mineur

Vice-chairman—George Whitmore, Illinois Power & Light Co., Peoria, Ill.

Secretary and News-Letter Editor—Ray A. Finch, Bureau of Safety, Inc., Chicago.

Employees' Publications

General Chairman—Thomas E. Owen, Louisville & Nashville Railroad, Louisville, Ky.

Vice-chairman for the East—J. O. Martin, Chesapeake & Potomac Telephone Company, Washington, D. C.

Vice-chairman for the West—Milo E. Smith, Chicago Bridge & Iron Works, Chicago.

Secretary—Laura G. Jackson, Byllesby Engineering & Management Corporation, Chicago.

Service Committee Chairman and News-Letter Editor—George H. White, Davey Tree Expert Company, Kent, O.

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Vice-chairman—Frank A. Hasse, Corn Products Refining Co., Chicago.

Secretary and News-Letter Editor—J. J. Zeitner, Continental Baking Co., New York City.

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Vice-chairman (Posters and Slides)—Robert F. Hand, Standard Shipping Co., New York City.

Vice-chairman (Publicity)—Arthur M. Tode, consulting marine engineer, New York City.

Vice-chairman (Pacific Coast)—Byron O. Pickard, Pacific American Steamship Owners' Association, San Francisco, Calif.

Secretary—Carl W. Cetti, New York State Merchant Marine Academy, New York City.

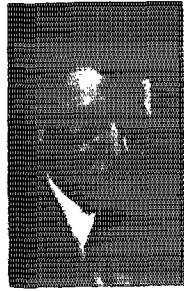
News-Letter Editor—Henry Blackstone, U. S. P. & I. Agency, San Francisco, Calif.



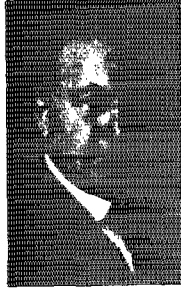
H. S. Smith



Carl Storck



W. L. White, Jr.



John Roach



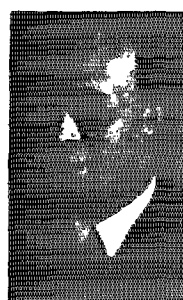
Frank H. Cogan



Henry D. Tefft



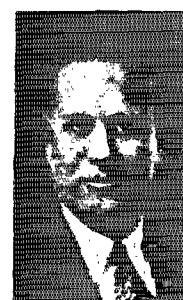
Robt. L. Schmitt



Thos. E. Lightfoot



C. L. Hightower



Elmer J. Smith

Metals

General Chairman—Robert L. Schmitt, Louisville Car Wheel & Railway Supply Co., Louisville, Ky.

Vice-chairman—E. F. Blank, Jones & Laughlin Steel Corp., Pittsburgh, Pa.

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News-Letter Editor—H. W. Darr, Bethlehem Steel Corp., Bethlehem, Pa.

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Vice-chairman—Harry W. Ekins, Brown Shoe Co., St. Louis, Mo.

Secretary—John Lauerman, Armour & Co., National Stock Yards, Ill.

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Third Vice-chairman—J. W. Alt, Calumet & Hecla Consolidated Copper Co., Calumet, Mich.

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Chairman, Great Lakes Division—J. C. Bernd, Sinclair Refining Co., East Chicago, Ind.

Chairman, Mid-Continent Division—J. C. Young, Tidewater Companies, Tulsa, Okla.

Chairman, Gulf Division—H. C. Renz, Atlantic Oil Producing Co., Dallas, Texas.

Chairman, Rocky Mountain Division—T. N. Shaw, The Midwest Refining Co., Casper, Wyo.

Chairman, Pacific Division—L. F. Knox, General Petroleum Corp., Los Angeles, Calif.

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Vice-chairman—P. G. Hunter, Motor Wheel Corp., Lansing, Mich.

Secretary and News-Letter Editor—George H. Berry, Western Electric Co., Chicago.

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Vice-chairman for Gas Interests—E. J. Kreh, Philadelphia Co., Pittsburgh, Pa.

Vice-chairman for Telephone & Telegraph Interests—F. M. Pepper, Illinois Bell Telephone Co., Chicago.

Vice-chairman for Electrical Interests—A. A. Oldfield, Wisconsin Power & Light Co., Madison, Wis.

Secretary—Howard M. Shaw, North American Power & Light Co., Chicago.

News-Letter Editor—W. G. Clevenger, Northern Indiana Public Service Co., Hammond, Ind.

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Vice-chairman—S. M. Shalleross, American Lime & Stone Co., Bellefonte, Pa.

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Vice-chairman—T. A. Adams, Union Terminal Cold Storage Co., New York City.

Vice-chairman—Carl C. Clements, National Dairy Products Corp., New York City.

Secretary and News-Letter Editor—Edward H. Fox, National Association of Practical Refrigerating Engineers, Chicago.

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Vice-chairman—H. W. Low, Miller Rubber Products Co., Akron, Ohio.

Secretary—R. A. Bullock, Corduroy Rubber Co., Grand Rapids, Mich.

News-Letter Editor—B. F. Gerpheide, The Goodyear Tire & Rubber Co., Akron, Ohio.

Safety Section, ARA—Steam Railroad Section, NSC

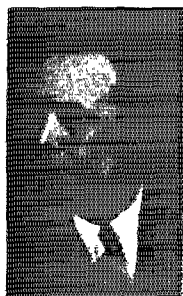
General Chairman—Charles E. Hill, General Safety Agent, New York Central Lines, New York City.

First Vice-chairman—H. L. LaFountaine, General Safety Supervisor, Great Northern Railway, St. Paul, Minn.

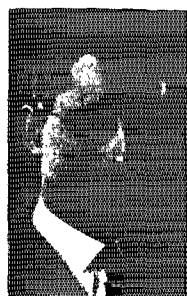
Second Vice-chairman—H. A. Parish, Assistant General Manager, Chicago & North Western Railway, Chicago, Ill.

Secretary—J. C. Caviston, New York City.

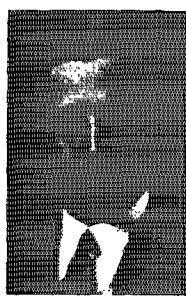
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Otho M. Graves



L. W. Dawley



C. F. Smith



Charles E. Hill



Dr. Chas. H. Eames



Roland Jones

THE ACCIDENT BAROMETER

A Monthly Review of Significant Changes in the Accident Situation

Prepared by the

STATISTICAL BUREAU, NATIONAL SAFETY COUNCIL



Industrial deaths in 13 states rose from 483 in August to 567 in September, an increase of 84 deaths. Of the New York total, 51 came from the ferry boat disaster of September 9, so that the increase is not an indication of normal trend. Thirty-seven of the Illinois deaths were cases previously reported, but not coming to the attention of the Statistics Division. Ohio, on the other hand, reduced its total from 89 to 69, and Pennsylvania deaths dropped from 103 to 82. Of the September total of 567 deaths, 274 occurred in September and 293 in earlier months. Records for the last five months are given below. Texas is a newcomer this month and it is hoped that complete information for preceding months will soon be available.

	May	June	July	Aug.	Sept.
California	52	59	52	45	62
Illinois	85	35	22	25	51
Indiana	12	4	13	11	8
Maryland	8	8	10	2	10
Massachusetts ..	33	32	32	17	27
Michigan	15	15	12	21	14
Minnesota	10	10	16	17	..
Missouri	9	9	6	8	8
New Jersey ...	22	17	18	15	17
New York ...	136	136	103	119	160
Ohio	82	72	85	89	69
Pennsylvania...	75	84	80	103	82
Texas	21	..	..	..	20
Wisconsin	6	7	10	11	9

Note: This table shows when deaths were reported to Industrial Commissions, not when accidents occurred. State totals are not directly comparable due to differences in laws.

Airplane fatalities in scheduled flying in the United States increased during the first six months of 1932, totaling 27 as compared with 24 in the preceding six months, and with 15 during the first six months of 1931. The fatality rate per million miles flown rose to 1.1 as against 0.7 in the same months last year. However, there were no severe injuries and only 10 minor injuries while in the first half of 1931 there were 8 severe and 37 minor injuries.

Canadian accidental deaths dropped from 6,249 in 1930 to 5,993 in 1931, or from a death rate of 61.3 to 57.8. The largest reduction came in railroad accident fatalities which totaled 254 compared with 371 in the previous year. Automobile deaths advanced slightly from 1,289 to 1,311, and drownings were up from 1,057 to 1,085. The 1931 accidental death rate of 57.8 is considerably lower than the U. S. rate of 78.2. This difference appears to hold for each type of accident except drowning, for which the Canadian rate is 10.5 and the U. S. rate approximately 6.0.

Industrial injuries in 17 community safety council cities (including 372,000 employees) rose sharply in August, with a frequency rate of 11.27, and a severity rate of 1.51, compared with July rates, for nearly the same list of plants, of 10.62 and 0.54. In August 1931 the rates for a similar group were 12.61 and 1.24, somewhat higher in frequency but lower in severity.

Automobile fatalities in 10 large cities sending monthly reports of such accidents to the National Safety Council are as follows:

	Jan. 1932	Sept. 1931	% Change
Baltimore	99	119	-16.8
Boston	68	78	-12.3
Buffalo	63	66	-4.5
Chicago	635	722	-12.0
Cleveland	138	159	-13.2
Detroit	209	231	-9.5
New York	738	796	-7.3
Philadelphia	217	235	-7.7
St. Louis	109	131	-16.8
San Francisco	91	70	+30.0

Motor vehicle deaths in September dropped 13 per cent from the August total in 70 cities and states reporting their experience for both months. Furthermore, the September total is 19 per cent below that for the same month last year. This preliminary estimate strengthens the belief that we may end the year with a substan-

tial reduction (perhaps as great as 10 per cent) from last year's record of 33,500 auto deaths.

Commercial vehicle accidents in fleets operating 29,145 vehicles in 16 community safety council cities increased slightly in August, reaching a frequency rate per 100,000 vehicle-hours of 16.58 against 16.19 in July. It is still much lower than the June rate of 18.35, and represents a reduction of 24 per cent from the rate of 21.81 for August 1931. Seven cities reporting accidents on a mileage basis show an increase in frequency of accidents per 100,000 vehicle-miles from 3.70 in July to 3.91 in August.

Accidental deaths of all types in 15 cities and 1 county (population 5,270,000) giving detailed information on this point declined 7 per cent from August to September. Industrial deaths were down from 22 to 12, home accident fatalities fell from 86 to 59, and auto deaths decreased from 82 to 75. Public accident (not motor vehicle) fatalities rose from 37 to 65, chiefly from an increase in railroad deaths from 6 to 20. Drownings, also, held up through September, contrary to expectations.

Looking ahead . . . The November accidental death total will be about the same as in September and October. Between 35 and 40 per cent of the deaths will come from automobile accidents, about 16 per cent from falls, 7 per cent from burns, and 6 per cent from firearms accidents. This last type of accidental death rises into prominence in November and disappears in January. The automobile death total will be somewhat lower than during the summer months, but according to a special study made last year the amount of traffic will drop even lower so that the frequency rate based on traffic volume will reach the highest point of the year.

NATIONAL SAFETY NEWS

He is calling You !



You are likely to think of the telephone from your individual point of view, as a convenience, as a necessity, as a means of transmitting to others your own thoughts and desires.

But your telephone is of equal importance to those who wish to get in touch with you. Right now as you are reading, someone, somewhere, may be calling you. It may be merely a friendly greeting . . . or news of importance to change the course of your life.

"Have dinner with us tomorrow." . . . The greater part of social goings and comings are maintained by telephone. "Come quickly! You are needed." . . . In crises and emergencies the telephone is indispensable. "That contract is entirely satisfactory." . . . Wheels of industry move in direct response to messages received by telephone.

In a moment your telephone may ring. It may be a call from across the street, across the continent, across the sea. As you receive this message, of vital importance or mere daily detail, you share in the benefits of the great chain of communication which links up the activities of the world.



AMERICAN TELEPHONE AND
TELEGRAPH COMPANY

INDUSTRIAL HEALTH

A NON-TECHNICAL SYMPOSIUM FOR PHYSICIANS AND LAYMEN

Physical Defects and Employment*

IS THERE any real reason why people possessing certain physical defects should not be employed by large industrial concerns?

Because the number of studies available and showing the effects of physical defects on working efficiency are few; and statistical data on this subject are correspondingly meager, the experience of the Western Electric Company in attempting to evaluate employees in terms of physical defects and compare them with others not so affected, should be of more than ordinary interest.

Medical Requirements

Previous to starting the study, a new set of medical requirements for employment was put into effect, the principal changes being as follows:

1. *Fision.* The requirements of 20/40 and 20/50 for class "A" applicants remained the same. For suitable work, however, applicants were acceptable having vision 20/40 in one eye, regardless of vision in the other eye.

2. *Hernia.* Applicants with hernia were acceptable for sedentary jobs if a properly fitting truss was worn. Formerly no trusses were accepted.

3. *Varicocele.* A large varicocele was formerly not accepted.

4. *Hydrocele.* A small hydrocele was formerly not accepted.

5. *Deformity or loss of member.* All such items were classed as vocational defects and merited consideration for suitable work, instead of serving as reasons for outright rejections as was formerly the case.

6. *Loss of organ as a result of surgery.* Applicants were accepted if one kidney has been removed. Formerly these cases were rejected.

7. *Varicose veins.* All cases not having complications became acceptable for sedentary work. Previously, applicants with varicose veins were not accepted.

Applicants falling into the previously mentioned classifications were

referred to as "A-VD," meaning that the general health is "A" or normal, but with some vocational defect—"VD." Applicants who did not possess vocational defects were referred to as "A." Reference will be made to these two types of employees in making comparisons.

As nearly as possible, each "A-VD" applicant was placed on work at which he would be able to perform as much as a class "A" employee and at the same time not be a menace to himself or to those with whom he worked. A follow-up program was devised to give an accurate check on proper placement.

To establish a basis of comparison, each "A-VD" worker was matched with an "A" worker, hired on the same day, for the same type of work, in the same department.

Although in the beginning there were 652 employees of each group, because of transfers from one department to another, or because of leaving the service of the company, only 115 original pairs of the "A-VD's" and "A's" remained. This gave 230 employees, or 115 pairs, representing comparable data in all respects, even to the extent of man-hours exposure on the same job. Results were, therefore, obtained on these employees at the end of the period of one year.

Results

Information was obtained from the payroll records, the hospital records and the departmental records in making comparisons of the two groups and covered such topics as: (1) sickness; (2) accidents; (3) personal absences; (4) income; (5) production; (6) turnover; and (7) cost of special placement service.

Sickness. In the one-year period, there were 7 per cent more of the "A" cases than the "A-VD's" absent on account of sickness.

Accidents. 5.6 per cent more of the "A" cases had accidents than the

"A-VD's." (None of the 230 persons had a lost time accident.)

Personal absences. 9.5 per cent more of the "A-VD's" than the "A's" were absent on account of personal reasons. (Personal absences included personal business, marriage, funerals, and the like.)

Income. The "A-VD's" showed an average of 4.6 per cent increase in weekly earnings as against 4 per cent for the "A's."

The "A-VD" employees paid on an hourly basis showed an average of 8 per cent increase in earnings as compared to 9.9 per cent for the "A's." (The difference in the rate of increase in the hourly and weekly paid employees is accounted for in the difference between the hourly rate and the base rate as shown at employment.)

Production. No objective measurement was possible because of the different kinds of jobs and types of work; however, supervisors reported that the "A-VD's" in many cases were equal to any employee in their departments. Some reports showed the "A-VD's" as exceptionally outstanding in production.

Turnover. At the end of the trial period of one year, there were 307 "A-VD" and 287 "A" employees still on the roll. The unusually large turnover in both cases was due to the necessity for economic adjustment.

Cost of special placement service. To eliminate additional expense, a routine has been devised permitting regular employment interviewers to do special interviewing necessary for the acceptance of "A-VD's." Some additional expense is involved, however, due to periodic follow-ups to assure suitable placement. The salary cost of an investigator, together with expenses incidental to progress reports, should constitute the only additional outlay hereafter.

Conclusions

It is significant that 58 per cent of employment applicants classified by the medical examiners as being

NATIONAL SAFETY NEWS

*Abstracted from an article "An Experiment with Vocationally Handicapped Workers," by J. W. Dietz, Western Electric Company, Kearny, N. J., as printed in "The Personnel Journal," February, 1932.

How will increased production affect your safety record?

WITH increased production and more men employed, your safety problem will increase. If your plant has a department which uses cutting oil or cutting compounds, you are almost certain to have an increase in cases of Oil Dermatitis, unless you take proper preventive measures.

● Oil Dermatitis is one of the most prevalent of all industrial diseases. It costs American industry great sums each year in compensation and lost time. It costs American labor much more in shattered health and earning power. Wherever cutting oils or compounds are used, workers are endangered by this great menace to industrial health.

● This disease is caused by pus germs carried into the pores, hair follicles and abrasions of the skin by cutting oils or compounds. Germ free oil becomes infected during use. Entire departments of a plant may contract this virulent skin disease, which may lead to blood poisoning and amputation.

● Proper disinfection of all cutting oils and compounds is the only way to protect your workers from Oil Dermatitis. You can effectively control its chief causes by sterilizing all cutting oils and compounds with WESCOL, a powerful germicide (sixteen times stronger than pure carbolic acid, but harmless to human beings) which readily dissolves in either oil or compound without altering its efficiency.

● The use of WESCOL is inexpensive . . . but it protects your workers from one of America's leading industrial diseases.

● Send the coupon or write a letter for our free booklet on WESCOL and Oil Dermatitis.

W E S C O L

A PRODUCT OF THE WEST DISINFECTING CO.

16 BARN STREET, LONG ISLAND CITY, NEW YORK

BRANCHES IN 42 PRINCIPAL CITIES

WEST DISINFECTING COMPANY
16 Barn St., Long Island City, New York

Gentlemen: Please send me your free booklet "WESCOL — A Practical Germicide for Industrial Plants."

Mr.

Name of Company

Street..... City.....

NOVEMBER, 1932

"A-V-D's" have been placed. This group was employed not because they possessed physical defects, but because they were qualified to perform a useful service in the company.

It is impossible to state just how many handicapped employees can be assimilated in industry. Too many such employees would tend to develop an inflexibility in the personnel of any organization. It is believed, however, that the maximum number has not been reached in the experience of this plant.

The result of the one year of experience was sufficiently satisfactory to make the acceptance of persons with certain physical defects a part of the standard practice of the medical department.

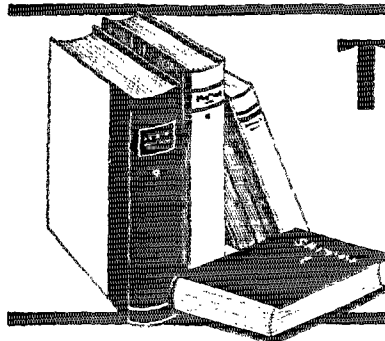
Probably it should be added that this experience will be valuable insofar as it can be adapted to other organizations and made the basis for similar and longer continued experiences.

Safety Shoes—Where Can We Find Them?

WHAT is an enterprising company to do when it wants safety shoes, orders safety shoes and cannot get safety shoes? Here is the striking experience of a well known central western member of the National Safety Council which surely teaches something important.

"We recently decided to try several types and makes of safety shoes, feeling that possibly we could improve upon the shoes our men have been wearing. We selected the names of five makers, all of whom had solicited us either by mail or by personal representative, and ordered from each two styles of shoes. These were all listed in the catalog or circulars and were not special styles or sizes. Yet none of them were promptly delivered: in fact, we still have received only three pairs of shoes from the lot.

"This would indicate that these firms, which have spent money in advertising and in some instances have paid the expenses of representatives to call upon us, are not carrying in stock even regular types and sizes of safety shoes. We know, of course, that there is a depression on, but how anyone expects to do business without having even one or two items in stock, we do not understand. Incidentally, all of these firms have advertised in the NATIONAL SAFETY NEWS."



The Safety Library

by
MARY M. WELLS
Librarian N.S.C.

INDUSTRIAL PSYCHOLOGY

Viteles, Morris S., *Industrial Psychology*. Published by W. W. Norton, Inc., New York, 1932. Price \$5.00. Cloth, 652 p., illus., index.

SINCE Münsterberg's pioneer experiments in the application of psychology to industrial problems 20 years ago much research has been directed to the mind and its processes. Münsterberg had little direct evidence that the application of psychological principles would aid operating efficiency and facilitate the adjustment of the individual to his job, but he paved the way for important developments in the field.

Ten years ago Boyd Fisher's book, "The Mental Causes of Accidents," focused the attention of safety men on a new phase of accident prevention with considerable influence in the development of the safety movement. In the succeeding years industrial investigators have provided a wealth of experimental data on the value of practical psychology in adding to the effectiveness and well being of the industrial worker.

Each succeeding volume on industrial psychology has had new data to present. In the present work there is a wealth of information for those who are concerned with the human relationships in industry as physician, employment manager or safety engineer.

Dr. Viteles has divided his work into three sections: The Foundation of Industrial Psychology; Fitting the Worker to the Job, and Maintaining Fitness at Work. Included in the latter section is the subject of safety at work, with the important allied topics of training methods, reduction of fatigue, vocational adjustments and problems of supervision and management. But the problem of accident prevention is not confined to any special section. It is closely tied in with so many operating and personnel problems that it cannot be segregated, and Dr. Viteles has given it merited prominence in the broader field of industrial psychology.

As a reference work or as a textbook for more intensive study, Dr. Viteles' book merits the attention of safety men.

SCHOOL SAFETY ORGANIZATIONS

Published by the State of New Jersey Department of Public Instruction, Trenton, N. J., 1932. Free. (Pamphlet).

A pamphlet of 55 pages entitled "School Safety Organizations," has recently been published by the New Jersey Department of Public Instruction. The bulletin is offered to the public schools as a guide to the organization of courses of study and

supervision of the activities of pupils in the school safety program, according to Charles H. Elliott, Commissioner of Education, in his letter of transmittal. The bulletin was prepared by Dr. Allen G. Ireland, Director in Charge of Safety Education, with the assistance of Deputy Commissioner Charles J. Strahan.

The pamphlet first sets forth the purpose of pupil organizations, reviews the state laws and rulings on the subject, and discusses briefly the cooperation of the New Jersey State Police in organizing and supervising school safety patrols. Thoroughgoing discussions of the junior safety council, patrol, court, and automobile drivers' club are included, together with a section on safety and the parent-teacher association. Sample accident report forms, safety codes and pledges, and a bibliography of important books, pamphlets, magazines, etc., on the subject are provided.

OTHER BOOKS AND PAMPHLETS

Acetylene:

Safety in the manufacture and use of acetylene. Published by the International Labor Office, Geneva, Switzerland, 1931. Available in the U. S. only through the American agent, The World Peace Foundation, 40 Mt. Vernon St., Boston, Mass. Price \$1.50 (Pamphlet) (Studies and Reports, Series F, Second Section No. 5).

Mines and Mining:

U. S. Bureau of Mines: Metal mine accidents in the United States; 1930. Published by the U. S. Government Printing Office, Washington, D. C., 1932. Price 20c. (Pamphlet) (Bulletin 362).

Women in Industry:

U. S. Women's Bureau: Labor laws for women in the states and territories. Published by the U. S. Government Printing Office, Washington, D. C., 1932. Price 15c. (Pamphlet) (Bulletin No. 98).

Women's work under labor law. Published by the International Labor Office, Geneva, Switzerland, 1932. Available in the U. S. only through the American agent, The World Peace Foundation, 40 Mt. Vernon St., Boston, Mass. Price \$1.50. (Pamphlet) (Studies and Reports).

PERIODICALS

Fire Prevention and Protection:

Department store fires. In *Travelers Standard*, October, 1932, p. 188-192.

Economy in fire prevention. In *Travelers Standard*, October, 1932, p. 181-188.

Mines and Mining:

Ryan, J. T., Profits—through reduction of accidents. In *Mining Congress Journal*, September, 1932, p. 15, 21.

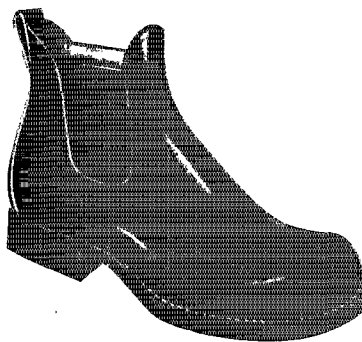
NATIONAL SAFETY NEWS

WHEN THE SHOE FITS THE JOB— THERE'S SAFETY!



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Chocolate Elk. One of the most popular numbers for general all around wear where safety to toes is required.



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Chocolate Elk Moulders Shoe designed especially for the foundry.

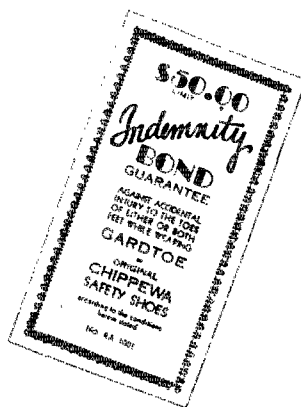


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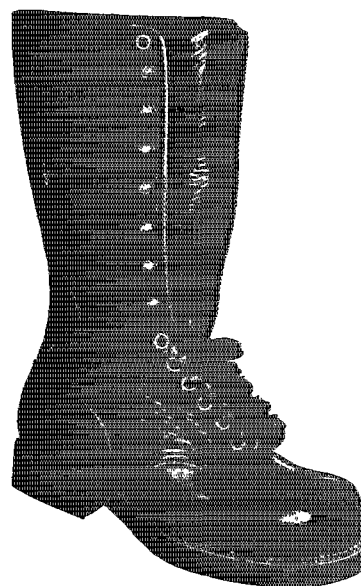
Black Elk with Grocord sole and heel for workers in Factories, Docks, Steamships, Steel constructions, etc.

CHIPPEWA has developed a complete line of safety shoes to meet the particular needs of all industries. This line includes the Original Chippewa Safety Shoe and the well known dependable "Gard-toe", in many different styles.

Let us help you select the proper shoe for your work, for protection can only come when the shoe fits the job.



We guarantee toe protection with our "Gardtoe" safety shoe. Indemnity Bond given with every pair.



No. 217-L

Waterproof Chrome Lineman's Boot also made in 6 inch height (No. 250D) for Heavy Duty of all kinds.

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CHIPPEWA SHOE MFG. CO., Chippewa Falls, Wisc.

Please send us further particulars on Chippewa "Gardtoe" Safety Shoes.

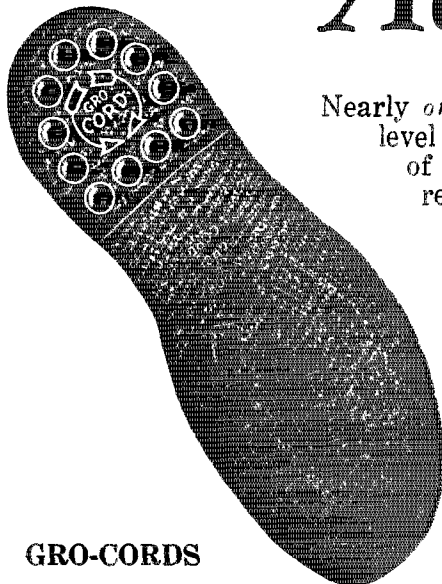
November, 1932

Company
 Attention of
 Street address.....
 City State.....

NOVEMBER, 1932

Reduce THOSE COSTLY

Slipping Accidents



Nearly *one-half* the falls of workers on level surfaces are caused by slipping of the foot—a cause so simple to remedy by use of **GRO-CORD** non-slip soles and heels.

GRO-CORDS are made non-slip by embedding thousands of cord tire cords upright in live rubber. Wear keeps cord ends bare, providing non-slip gripping surface at all times. Insist that your workers have this protection.

A complete line of safety rubber footwear now available. Write for particulars.

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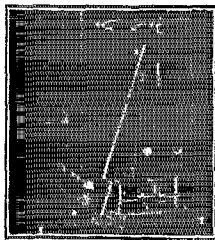
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Use D. & M. Automatic punch press Guards. Always out of the way of feeding, D. & M.'s also give super protection that allows your operator to do his best work.

D. & M. Automatics fit any punch press made—are easily installed by merely drilling and tapping 2 holes—swing either right or left as desired and have an exclusive, patented shield preventing operator from reaching behind the guard. **LOW IN PRICE—\$18.50 to \$28.00.**



Order a D. & M. Automatic Guard for 30 days **FREE** trial. State size and make of press and whether left to right or right to left swing is wanted.

TAYLOR-SHANTZ CO. 486 ST. PAUL STREET
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PERSONALS

MARTIN J. FLANIGAN, for the past 50 years an employee of the Milwaukee Road, died September 20, following a lingering illness. For the past four years he was manager of the railroad's safety department. He is survived by his widow and two sons, Robert and Jerry. Funeral services and burial were at Aberdeen, S. D., September 23.

Mr. Flanigan was born October 2, 1870, at Louisa, Iowa, and started his railroad career at the age of 12 as a water boy for the section gang of which his father was foreman. Acquiring a knowledge of telegraphy from kindly operators he qualified at the age of 15 as a telegraph operator. In 1895 he was appointed a train dispatcher, and in 1908 he was promoted to chief train dispatcher at Aberdeen, South Dakota. A year later he was promoted to the position of trainmaster with headquarters at Aberdeen. In 1918 he was appointed a superintendent and for a year was located at Dubuque, Iowa. In 1924 he was transferred to Marion, Iowa, as superintendent of the Iowa division, and on January 1, 1929, he was promoted to manager of the safety department with headquarters in Chicago.

Adjustment in the headquarters staff of the National Safety Council have been made necessary by reduced income during the past three years. The Territorial Councils Division staff were the first to be laid off because the work of this division did not relate directly to the individual services rendered by the Council to its members. Further reduction in expenditures has become necessary and the Executive Committee has reluctantly discontinued the Industrial Health Division for the present. This division

SAFETY ENGINEER

Experienced safety engineer desires connection with insurance company, public utility or oil company. Preferably in the state of Texas. Familiar with schedule and insurance rating. Address Box 287, National Safety News.

NATIONAL SAFETY NEWS

was the most recent addition to the Council's services and it is hoped that this move will be only a temporary expedient. Dr. C. O. Sappington, who has been director of the division since its organization in 1928, leaves the service with the best wishes of the Council.

Blackstone Valley Wins Inter-Council Contest

FIRST place in the Sixth Inter-Council Industrial Safety Contest, sponsored by the National Safety Council, has been won by the Blackstone Valley Safety Council. Chattanooga captures second place, and third place is won by Providence. Official announcement of the standing of the cities was made during the Twenty-first Annual Safety Congress.

Blackstone Valley, with a final index number of .47, easily defeated all contestants, and thus repeats for the second time an easy victory. Providence barely nosed out Louisville for third place, the respective index numbers being .658 and .662. Of the fifteen safety councils whose records were complete, only three had failed to lower their basic safety rates during the contest period.

The basis upon which the safety councils are entered in each contest is by a comparison of improvement in accident prevention. It would not be fair, because of the great variety of industrial plants in the various cities and their diversity of hazards, to compare them upon a basis of current accidents. Each city wins or loses in the schedule by showing a better percentage of improvement in safety than its neighbors.

A beautiful plaque was presented to the Blackstone Valley Safety Council at the Washington Congress in commemoration of the Sixth Inter-Council Industrial Safety Contest, and suitable certificates to the winners of second and third place. The standing of the other cities was as follows: (4) Louisville; (5) Grand Rapids; (6) New Haven; (7) Baltimore; (8) Detroit; (9) Richmond; (10) St. Louis; (11) Worcester; (12) Delaware; (13) Western Pennsylvania; (14) Springfield; (15) Massachusetts.

In the Seventh Inter-Council Contest, now in full swing, Grand Rapids jumped quickly into the lead, with Blackstone Valley in second place, and Providence again a close third. Nineteen councils are entered.

NOVEMBER, 1932

NO WONDER *they are* POPULAR!



WE'RE speaking of the bandage—Bay's Readi-Bandage, in fact, of which over a million are used each year by doctors and nurses. They are particularly adapted for saving time, money and effort in the handling of the many casual cuts, burns and bruises coincidental with industrial work.

They come in two inexpensive, convenient put-ups as follows:

100 strips 1 in. wide. Each
in glassine envelope . . .
..... per box \$1.50

6 strips 6 in. wide in card-
board box
..... per dozen boxes \$4.80

Samples are yours for the asking.

SURGICAL **BAY'S** DRESSINGS

THE BAY COMPANY
BRIDGEPORT, CONNECTICUT
A DIVISION OF
PARKE, DAVIS & CO.

THE BAY COMPANY, BRIDGEPORT, CONN.

Gentlemen: Kindly send me a free sample of BAY'S READI-BANDAGE.

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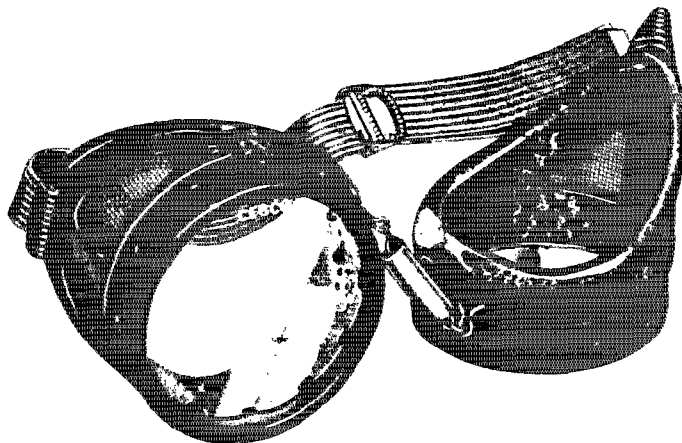
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This Goggle



Solves 2 PROBLEMS and wearing goggles can be comfortable now

Adequately ventilated yet of such a design as to prevent foreign particles entering the eye cup—the TROJAN goggle is ideal for practically all industrial requirements. Special air channels in edge of cup under lens make possible normal circulation of air currents WITHIN the goggles. Special baffled vents exclude all foreign particles entering the eye cups. Unusual comfort is provided by having individually molded right and left cups fit contour of face, preventing severe pressures in any one spot. The TROJAN is cool, dust free and comfortable. When you want a goggle with unrestricted vision, use the TROJAN. Large 50 mm. lenses give increased vision in all directions.

For chipping, grinding, caulking and all other occupations where severe impact hazards are encountered you can use the TROJAN fitted with 50 mm. Super-Safety Lenses. For welding and cutting operations use 50 mm. Cescoweld Lenses.

Write for our catalog and sample pair of the type goggle you need.

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CHICAGO ILLINOIS

FOOT INJURIES

avoided by wearing

REECE—All Proof

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Sent upon request.



Safety "STRONG TOE" Shoe

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REECE

Wooden Sole Shoe Co., Inc.

Columbus, Nebraska

Good Will Dividends

(Continued from page 14)

done. Possibly our regard for men, as evidenced by this work, may be a softener of the criticism that foreigners so often pass on us as money getters. In this work surely, humanitarian considerations have prevailed.

I come now to two points that are essential if there are to be good-will dividends from safety effort.

The first is this, that good-will must never be the designed purpose of safety work. It must of its nature be a by-product.

For if good-will be made the purpose, the work is immediately deflected from its only sound objective—the conservation of life and limb. Being deflected from its objective, it ceases to conserve life and limb, and must necessarily fail as a good-will builder as well.

The second flows from the first—and is inherent therein. *Safety work that will yield by-products must be sincere; it must, in full faith and honesty, be directed to the conservation of men.* There can be no camouflage. Then only will men respond. No one is keener than they to detect insincerity. If they sense that they are regarded as robots, expensive to maim, to injure, to kill, they will not put mind and heart into safety work. There may be some accident reduction. Even in that area the work will fall short of its possibilities. But there can be no good-will dividends, because the confidence and the interest of the worker is lacking.

If you should ask me why the cement industry has for some years held the leading position in low frequency of accidents and has twice received the very high honor of the Joseph A. Holmes award, I must answer that it lies in the sincerity of the industry's interest in its men. First, last, always, we have aimed to protect them. We have saved men, even though insurance premiums were not reduced.

In the process of saving them, we have given them responsibility, we have raised their estimate of themselves. It has been a joy to see them respond and grow.

But if the men have grown, so too have the managers. If the worker sees somewhat through our eyes, we now see partly through his. We are more alert to his interest, as he is to ours. We are broader, more considerate, better managers.

NATIONAL SAFETY NEWS

I shudder to think of what would have happened had safety work not developed. As a young man I had occasion to spend time in Northern Michigan. I was struck by the human wreckage of the mines and lumber camps. Crutches were in common evidence. That which death concealed was a heavier toll than the crutches revealed.

As the years have flown, mechanisms have become more gigantic, swifter, more complex, their crushing power greater. Had there been no safety work, the toll would now cry to high heaven. But safety work, motivated by interest in the man, has snatched the prey from the destroyer. Other benefits have ensued. Weigh them, as you will, with all your expert knowledge. Cast up your accounts in terms of life and limb conserved, of family and community benefits, of savings in cost. Offer them all as the contribution of safety work to the common weal. Large will be the total, astonishingly large even to the initiated.

Yet I contend that the total will not be complete. Something has been omitted—something of high value, for it works for peace and harmony in that great agency of our social mechanism — industry — through which millions of us win our daily bread. That something which you have omitted from the total is good-will—the good-will that flows from safety work that is honest and sincere.

Boss or Leader?

THE boss drives his men—the leader coaches them.

The boss depends upon authority—the leader on good-will.

The boss inspires fear—the leader, enthusiasm.

The boss says "I"—the leader says "WE."

The boss sets tasks—the leader sets the pace.

The boss says, "Be here on time"—the leader gets there ahead of time.

The boss investigates breakdowns—the leader fixes them.

The boss "knows" how it's done—the leader shows how.

The boss makes work a drudgery—the leader makes it a game.

The boss supervises work—the leader directs men.

The boss says, "Go!"—the leader says, "Let's go!"—*Armco Foremen's Bulletin*.

NOVEMBER, 1932

ADDING Safety TO Economy AND Efficiency!

● The yearly toll of accidents saved through the use of Alemite High Pressure Lubrication Systems and Genuine Alemite Lubricants would in itself amply justify their universal adoption.

But in addition to this wonderful factor of safety, Alemite adds enormously to production economy and efficiency. Here, then, is a manufacturing ideal which cannot be overlooked by thoughtful men in industry.

Think of a lubrication system which protects the operator against lubrication hazards—both on heavy and light equipment—while machinery continues in operation at full production speed.

Think of lubricants which never melt out of bearings—never drip to the floor—always "stay put" to function as needed.

Such is the Alemite High Pressure Lubrication System and such are the complete line of Genuine Alemite Lubricants especially designed for all phases of manufacture.

May we, without obligation, survey your plant or any section thereof from the Alemite Lubrication Safety standpoint? Please address: Alemite Corporation, (Division of Stewart-Warner), 2634 N. Crawford Avenue, Chicago, Ill.

INDUSTRIAL ALEMITE

Pioneers in Specialized Lubrication for Industry

KLEINS



for Linemen

LINEMEN recognize that only the finest in safety equipment can be good enough—out on the sticks in any kind of weather—emergency jobs that must be done immediately—here safety, even life itself, depends on leather and steel. Where safety is the watchword you will find Kleins. In linemen's equipment, safety first means Kleins first—"since 1857."

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

Distributed through jobbers

Four pamphlets of interest to you if you are a lineman or responsible for the safety of linemen. Check the ones you want.

- ☐ 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
Established 1857 **Chicago, U.S.A.**
 3200 BELMONT AVE., CHICAGO

The Eyes Behind the Windshield

(Continued from page 36)

lowered acuity. An eye may be hyperopic in one meridian and myopic in another, or may have any combinations of these. The general result is greatly impaired vision. It also brings about much eye strain, fatigue, headaches, and other secondary causes of accidents. Our studies have shown astigmatism to be associated with accident-proneness but so far there is no evidence on the exact mechanism of this relationship.

The phorias are quite often overlooked by the clinician. For specific reasons smaller amounts of phorias are usually not corrected when glasses are fitted and consequently it is frequently passed over as unimportant. Our researches have shown that imbalance of eye muscles is associated with accident-proneness. Especially the tendency for the eyes to turn in seems to be detrimental. This is known as esophoria. When the eyes actually turn in the condition is known as converging strabismus. Not enough data has been secured on this extreme form to warrant a statement.

When one eye tends to turn up the condition is known as hyperphoria. Diplopia or double vision in this case is particularly dangerous. The driver sees two vehicles coming and cannot orient himself with respect to them. It distorts the perspective. A railroad employee was found on the job who always saw the semaphore in a block or other signals as two—one above the other. It is easy to see how such a condition might cause trouble in driving an automobile.

Another class of visual defects is not so easy to understand. Scotomata of the positive and negative types are common. In the positive scotoma the patient sees a spot or opaqueness before him constantly. It covers a certain portion of the visual field. In negative scotoma only a hole in vision is present. Many times the patient is not aware of it. Anything falling directly in this field is invisible so far as the driver is concerned. Lacunae or "holes in vision" are relatively common and are of considerable trouble to the victim although the direct cause of the disturbance may not be recognized. It is highly important that such defects be detected and the driver warned of them.

Various retinal abnormalities such as night-blindness, susceptibility to

glare, and similar disturbances are accident hazards. By an instrument known as the glareometer these disturbances can be measured. The use of proper filtering lens will do much to neutralize these effects. Light of certain wave lengths is beneficial to the eyes. Cheap filtering lens may be more detrimental than valuable. Our studies have shown that women cannot stand as much glare as men. The range of light in terms of scale readings on the glareometer for men is from 22 to 95 with a mean of 63.8. Women's range is from 38 to 85 with a mean of 57.4. So far as our researches are concerned there has been no attempt to determine the relationship between susceptibility to glare and night blindness.

One of the commonly neglected points in safety work is the difference between acuity and efficiency in vision. To illustrate this point: the writer is slightly myopic or near-sighted due in part to a slight astigmatism against the rule. Acuity is excellent in most respects. However, when required to attend to some close task for a time, a definite feeling of discomfort and boredom is experienced. In proof-reading at such times it is very easy to overlook a small error. To be able to see well is one thing and to be able to observe without a specific effort over an extended period of time is quite another. The former is acuity, the latter efficiency. Eyes working under a strain mean inefficiency.

In conclusion it may be well to state that quick examinations of drivers can be made by traffic bureaus if the proper equipment is used. No concern or state organization can take upon itself the job of correcting vision but it can and should set up the necessary equipment for determining the minimum amount of vision which the particular job requires for safety. Checks of visual acuity and other simpler measurements can be made quickly to determine these limits. Such a study is now in progress. The objective is to find which defects are most closely associated with accidents, how much of such defects are necessary before the driver becomes an accident hazard, and to develop a type of equipment which will make such measurements within the grasp of the

NATIONAL SAFETY NEWS

average traffic or safety man. Correction of defects will naturally have to be referred to specialists in the field.

In the above paragraphs an attempt has been made to indicate some of the problems of vision and their relation to safety. The secondary effects of impaired vision and defective or pathological vision cannot be satisfactorily estimated. Further research upon the psychological effect of imperfect sense organs and faulty perception will clarify many of these problems. In the meantime it is highly practical that automotive operators have the highest acuity and efficiency of vision possible. This will be a long step in the direction of safety.

Civilizing Forces

(Continued from page 10)

force propelled by a human desire to eliminate suffering. Has the depression killed that desire, or have we come to so desperate a point that our sense of the values of human life are perverted to a consideration of things only temporary? The unqualified answer is "No."

Companies that are distributing the 1933 Annual Safety Calendar believe that safety is an "essential," equally important in good or bad times. They believe that the small amount necessary to put this cheerful safety educator into the homes of their employees is money invested wisely and with purposeful effect.

Right now when hopeful signs of economic recovery are sprouting in many fields the 1933 Safety Calendar would seem a happy answer to the employer anxious to brighten up the Christmas season with a remembrance expressing interest and friendship.

The Safety Calendar serves as a token of appreciation for past safety efforts, an inspiration for safety in the days to come and as a Christmas remembrance—all in one inexpensive package.

It would be practically impossible to make delivery in time for Christmas distribution on orders received after the middle of November, and we suggest immediate consideration.

M. J. Amers.

NOVEMBER, 1932

Machine Guards

Erdle Perforated Metal is the easy, practical and economical answer to your machine guard needs. Made in various gauges; No. 22 gauge always in stock. Sheets 36x120 inches with 1/2 inch holes.

Your handy man can make up and install any type of guard from Erdle perforated metal.

Write for samples and details

ERDLE PERFORATING COMPANY

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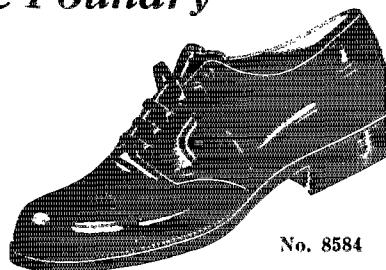
Safety First Shoes

For Every Kind of Work
from White Collar Job
to the Foundry

All Safety First Shoes
Have the Patented Safety

STEEL TOES

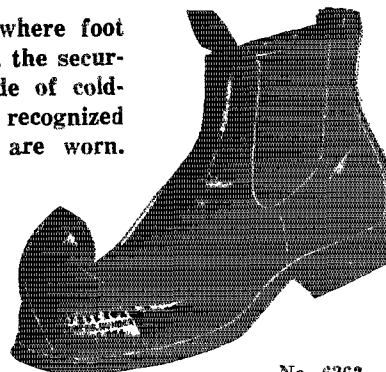
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No. 8584

In every line of work where foot protection is necessary, the security afforded by toes made of cold-rolled, heat-treated steel is recognized and Safety First Shoes are worn. They are recommended by safety engineers from coast to coast.

No. 6263 is a sturdy, comfortable, protective Foundry Shoe of exceptional wearing quality.



No. 6263

Write for descriptive catalog and new low prices on all Safety First Shoes.

SAFETY FIRST SHOE CO.

of Massachusetts
Framingham, Massachusetts

Please send me.....pairs of No.....Safety First Shoes on memorandum, with full information about your complete line. If they will reduce foot accidents and save us money, we will gladly help our men to get them.

Send size..... Concern..... Position.....
Address..... Signed.....

SAF-T-TOP



PREVENTS INFECTION

Whatever antiseptic solution you favor, its efficiency in preventing infection is greatly increased when put up in Saf-T-Top applicators.

Saf-T-Top applicators are well protected in shock-proof wooden cases. One may be carried in the pocket of every employee, handy for the immediate disinfection of small or large wounds.

The patented tip feeds like a fountain pen. This tip is an extremely economical feature, since it allows little or no evaporation, and involves no cotton swab to soak up and waste your antiseptic. Touching the injury with the tip leaves a clean cut patch or line.

For large wounds the antiseptic is sprinkled freely by tapping the bottom of the ampoule.

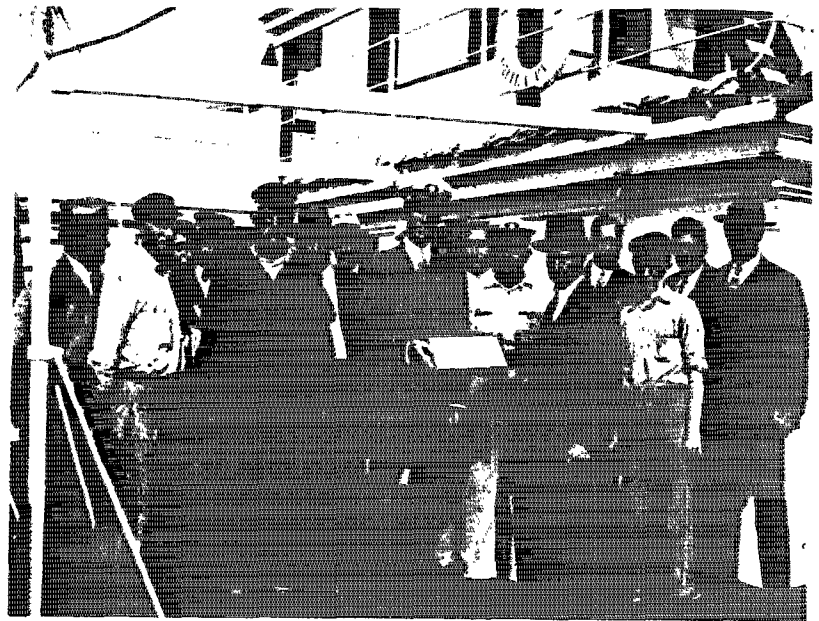


SAMPLE
Write for
Yours on
Company
Letterhead



ROBERT A. BERNHARD
Mfg. Chemist
154 Anderson Ave. Rochester, N. Y.

Four Years of Safety Afloat



FOUR active years on the high seas without a lost-time accident is the record of the crew of 32 men aboard the "SS. Herbert L. Pratt," of the Atlantic Refining Company, Philadelphia, Pa. In commemoration of such outstanding service the company presented to this vessel on September 11 a Certificate of Merit, signed by Robert C. Tuttle, manager, and J. W. VanDyke, chairman of the board. In

the accompanying illustration, Mr. Tuttle is making the presentation to Capt. W. L. Evan in the presence of the crew. The certificate says:

"This Certificate of Merit is awarded to the officers and crew as a deserved appreciation of the record made by them in accident prevention —four years without a lost-time accident."

Shell Petroleum Corp. Makes Outstanding Reduction

AMONG the winners in the Petroleum Section Safety Contest, trophies for which were presented by the National Safety Council at the Washington Congress, the record of the Shell Petroleum Corporation, St. Louis, Mo., is an outstanding one.

During the past six years this company, through persistent accident prevention work, has reduced its accident frequency rate from 51.4 to 6.9 lost-time accidents per million man-hours worked. This has resulted in a reduction in personal injury costs of approximately \$2,000,000 during the period.

The reduction in number of accidents over the six-year period is 88 per cent. Accidents in 1932 were 38 per cent fewer than in 1931. The costs of accidents in 1932 were 24 per cent less than in 1931. These figures

are based upon an average number of 13,000 employees, working during 1932 a total of 27 million man-hours.

Fewer Railroad Injuries Bring Reduced Costs

FIGURES showing that the reduction in number of injuries to employees of the railroads brings a corresponding reduction in the cost of such injuries have recently been made public by the U. S. Bureau of Statistics. The following table covers the period 1926 to 1931, inclusive:

Calendar Year	Total charges to "Injury to Persons" Class I Railroads	Casualties per million man-hours
1926	\$46,540,772	23.3
1927	44,983,592	19.4
1928	41,031,791	16.2
1929	41,828,966	13.8
1930	36,743,105	9.4
1931	33,314,297	7.5

The above figures are for injuries to all persons. The federal records

NATIONAL SAFETY NEWS

What...?



A Machine that
is twice as fast?
That increases
safety for work-
ers? That re-
duces waste?

"We Can't Afford It!"

What would you think of a superintendent or any other executive who would thus treat mechanical improvements? Without hesitation, a factory will junk old machines when it is shown that new equipment, new methods, are safer, will turn out more work and better work.

Yet many factories still permit floors to be mopped . . . or scrubbed by hand . . . or not cleaned regularly in any way. This despite the fact, proved in thousands of plants, that clean floors tend to prevent accidents, increase efficiency and increase output. Furthermore, in scrubbing waxing, as in nearly every factory operation, machines do the job better, faster and at less expense than if done by hand.

Let Finnell prove this to you, on your own floors. A demonstration may be easily arranged. Just send us a letter naming the time and place; or ask our representative to call. Address *Finnell System, Inc.*, 1011 East Street, Elkhart, Indiana.

FINNELL

Est. 1906

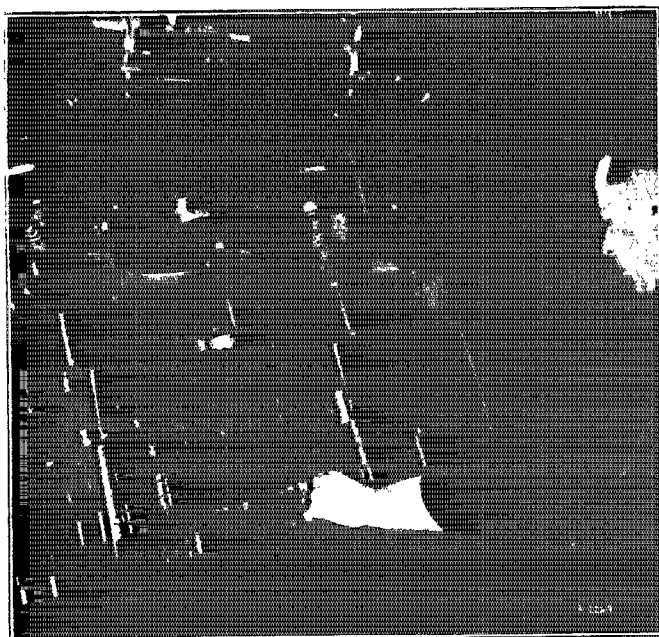
ELECTRIC FLOOR MACHINE SYSTEM OF FLOOR MAINTENANCE

For Scrubbing—Waxing—Polishing

Even Mopping Is No Longer Cheap

This amazing combination Finnell scrubs and picks up the water in one operation. Faster than mopping and incomparably better. Dry scrubs, too. Only one of a complete line. Nine models. Write for descriptive literature.

..... A REAL SAFETY GUARD



SERVES a double purpose. It reduces hazards to a minimum and actually speeds up production. Those who have given the subject consideration know that this can be accomplished.

The cut shows a guard of simple construction which does not interfere with the easy operation of the machine. Complete vision of tools and work is given the operator at any angle. We furnish the sheets—the guard can be made by your handy man.

The Harrington & King Perforating Co.

114 LIBERTY ST., NEW YORK

NOVEMBER, 1932

5645 FILLMORE ST., CHICAGO, U. S. A.



"DECORATE THE FLOOR WITH THAT GREASY RAG!"

...whispers 'Careless'... and when the worker obeys this sinister urge, he sooner or later decorates someone's hospital cot.

TEACH men the gospel of clean floors...to put greasy rags in safe cans...to prevent fire, injury and loss.

Stonehouse
SIGNS, INC.
Stonehouse Bldg. 9th at Larimer
DENVER COLORADO
"STONEHOUSE SIGNS SINCE 1863"

**CLEAN UP
—AND—
KEEP CLEAN**

919-B

Justrite SAFETY APPLIANCES

**Reduce fire hazards...
Lessen insurance
rates.....
Increase shop
efficiency...**

JUSTRITE Safety Appliances are inspected and labeled by the Underwriters, Inc., and the Associated Factories Mutual Fire Insurance Companies. Protect your plant—your employees—install the latest improved JUSTRITE Safety Devices. See your dealers or write us for interesting prices and literature.



Justrite Waste Can
Capacity—6, 8, 10,
14 gallons

JUSTRITE SAFETY CAN

For explosive and volatile liquids. Leaking and evaporation are prevented by automatic spring controlled spout cap. Non-explosive even under extreme heat. Natural hand grip. Sizes—1½ to 5 gallons; can be filled direct from filling station hose. No special funnels required. Handy—convenient—sure safety.

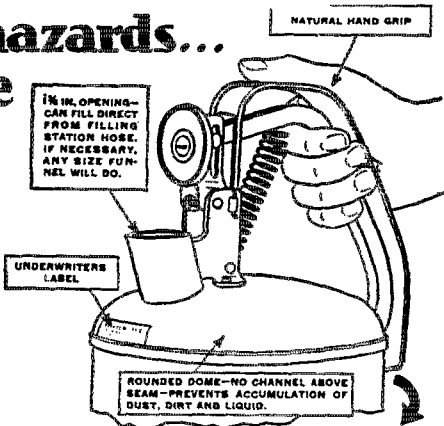
JUSTRITE WASTE CAN

Opens with Foot—Closes Automatically
For oily waste rags and other inflammable material. Automatic. Foot operated. Leaves hands free. No springs. Portable. Quickly emptied. Non-leakable. Sizes 6 to 14 gallons.

JUSTRITE MFG. CO.
2087 SOUTHPORT AVENUE CHICAGO



Justrite Safety Can
Sizes—1 pint to
5 gallons



do not make any distinction between charges recorded for employees of the railroads and others. Nevertheless, a decrease in total costs during the six-year period of over seventeen millions of dollars is an impressive figure.

Sectional Officers

(Continued from page 55)

Street and Highway Traffic

General Chairman—Clifford Davis, Vice-Mayor and Commissioner of Fire and Police, Memphis, Tenn.

Vice-chairman—Harold G. Hoffman, Commissioner of Motor Vehicles, Trenton, N. J.

Vice-chairman—Lewis W. McIntyre, City Traffic Engineer, Pittsburgh, Pa.

Vice-chairman—C. C. Janes, Secretary, Ohio State Automobile Assn., Columbus, Ohio.

Secretary—Earl J. Reeder, National Safety Council, Chicago.

Textile

General Chairman—Dr. Charles H. Eames, Lowell Textile Institute, Lowell, Mass.

Vice-chairman—Ignatius MacNulty, American Woolen Co., Malden, Mass.

Secretary—Myron B. Jonsberg, H. A. Hale & Co., Boston, Mass.

Woodworking and Lumber Manufacturing

General Chairman—Roland Jones, Surty Manufacturing Co., Chicago.

Vice-chairman—J. W. Smith, Employers' Reinsurance Corp., Kansas City, Mo.

Secretary—M. C. Goodspeed, General Electric Co., Erie, Pa.

News-Letter Editor—L. W. Kerberg, Mengel Body Co., Louisville, Ky.

COMING EVENTS

Associations featuring safety in their programs are invited to send dates of meetings

Nov. 2, Augusta, Me.

State of Maine, Fifth Annual Industrial Safety Conference. W. J. Brennan, Safety engineer, Department of Labor & Industry, Augusta, Me.

Nov. 3-4, Winston-Salem, N. C.

Third Annual State-wide Industrial Safety Conference. E. G. Padgett, director of safety, North Carolina Industrial Commission, Raleigh, N. C.

1933

Jan. 16-20, Detroit, Mich.

American Road Builders' Association Annual Convention and Road Show; Highway and Building Congress. Charles M. Upham, engineer-director, American Road Builders' Association, National Press Building, Washington, D. C.

NATIONAL SAFETY NEWS

Trophies Awarded

(Continued from page 53)

Line Company, Muskogee, Okla., the record being two lost-time injuries, 638,202 man-hours worked, and a frequency rate of 3.134.

In Group B of this division first place was won by the Ajax Pipe Line Company, Springfield, Mo., with a record of no lost-time injuries and 238,335 man-hours worked.

First place in the Marine Department was won by the Associated Oil Company, San Francisco, Cal., the record being six lost-time injuries, 451,579 man-hours worked, and a frequency rate of 13.287.

Public Utilities Section

The Public Utilities Section Safety Contest had 100 units entered, 113,416 employees working 275,953,178 man-hours. They suffered 2,354 lost-time accidents, for an average frequency rate of 8.530, although 49 of the units had rates below the average. Four units had perfect no-accident scores.

First place in the Combination Gas and Electric Division, Group A, was won by the Wisconsin Public Service Corp., Milwaukee, Wis., the record being three lost-time accidents in 2,302,975 man-hours worked, the frequency rate being 1.070.

In Group B of this division first place was won by the Lake Superior District Power Company, Ashland, Wis., the record being two lost-time accidents, 519,320 man-hours worked, and a rate of 3.851.

First place in the Electric Division, Group A, was won by the Center Power & Light Company, San Antonio, Texas, with a record of seven lost-time accidents, 2,597,402 man-hours worked, and a rate of 2.695.

In Group B of this division first place was won by the El Paso Electric Company, El Paso, Texas, the record being no lost-time injuries in 616,843 man-hours worked.

First place in the Gas Division, Group A and B, first place was won by the Reserve Gas Company, Pittsburgh, Pa., with a record of no lost-time accidents in 346,072 man-hours.

Rubber Section

The Rubber Section Safety Contest had 25 unit companies registered, the 20,907 employees working 20,660,197 man-hours. The average frequency rate for the contest was 5.760, 13 units completing the contest period below the average. Three units had perfect no-accident scores.

First place in the Tire Division was won by the U. S. Rubber Reclaiming Company, Buffalo, N. Y., their record being no lost-time injuries in 159,429 man-hours worked.

First place in the Mechanical Goods Division was won by the U. S. Rubber Company (Development Department), Passaic, N. J., their record being no lost-time accidents in 83,400 man-hours worked.

Fleet Safety Contest

The National Fleet Safety Contest in its first year of activity made a very grati-

NOVEMBER, 1932

fying showing. The fleets engaged numbered 281, for a total of 22,400 vehicles. In the group of 239 fleets reporting on the mileage basis, 20,000 vehicles covered over 173,000,000 miles during the six months and averaged 3.17 accidents per 100,000 miles. In the group of 42 fleets reporting on the hourly basis, 2,400 vehicles were in operation 3,300,000 hours and the drivers averaged 13.04 accidents per 100,000 hours.

First place in the various classifications was won by the following fleets:

Coca-Cola Bottling Company of New York, Newark-Asbury Park, winner in the Heavy Trucking Division, with an hourly rate of 15.36.

Oklahoma Gas and Electric Company, Oklahoma City-Sapulpa, winner in the Public Utilities Division, with a mileage rate of 1.00.

City Transfer Company of Honolulu, Hawaii, winner in the Transfer and Storage Division, with a mileage record of no lost-time accidents.

The Canton Repository, Canton, O., winner of the Light Delivery Division, with a mileage record of no lost-time accidents.

Pie Bakeries, Inc., Detroit, Mich., winner in the Dairies, Bakeries and Restaurants Division, with a mileage rate of 1.72.

Standard Oil Company of California, San Joaquin District, winner in the Petroleum Division, with a mileage rate of .92.

Southern United Ice Company, Tennessee, winner in the Coal and Ice Division, with a mileage rate of .68.

The City Transit Company, Cincinnati, O., winner in the City Bus Division, with a mileage rate of 4.93.

Coast Cities Railway Company, Allenhurst, N. J., winner in the City Bus Division, with a mileage rate of 2.24.

Greyhound Lines, Pittsburgh-Cincinnati, winner in the Inter-City Bus Division, with a mileage rate of .73 for Pittsburgh and .56 for Cincinnati.

Paine Lumber Company, Oshkosh, Wis., winner in the Horse-Drawn Vehicles Division, with an hourly record of no lost-time accidents.

Tubize Chatillon Corporation, with an hourly record of no lost-time accidents.

Mexican Petroleum Corporation, Florida-Texas-Virginia, winner in the Petroleum Division for small fleets, with a mileage record of no lost-time accidents.

Rainey-Wood Coke Company, Conshohocken, Pa., winner in the Coal and Ice Division for small fleets with a mileage record of no lost-time accidents.

American Society for the Prevention of Cruelty to Animals, New York City, winner in the Light Delivery Division for small fleets, with a mileage record of no lost-time accidents.

Seven Bakery Brothers, Steubenville, O., winner in the Dairies, Bakeries, Restaurants Division for small fleets, with a mileage record of no lost-time accidents.

Hastings Truck Company, Kalamazoo, Mich., winner in the Heavy Trucking Division for small fleets, with an hourly record of no lost-time accidents.

IRON AGE SAFETY SHOES



Give Dependable Foot Protection!

No matter how careful and alert the worker, foot accidents will happen when they are least expected. Well built foot protection is the only dependable way to really reduce these accidents.

Iron Age Safety Shoes are built to provide that protection which makes the worker unconscious of his feet. His entire attention can be given to his work. We recommend them particularly for use in—

STEEL MILLS
IRON FOUNDRIES
GAS AND ELECTRIC PLANTS
ICE AND FUEL STATIONS
STONE QUARRIES
COAL MINES

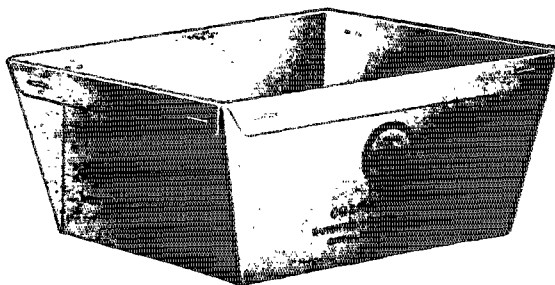
Carried in stock for immediate delivery.
Write for catalog.

H. Childs & Co., Inc.

Established 1817

813 Penn Avenue, Pittsburgh, Pa.

Spitting May Spread Disease



THIS is the season of the year when sneezing, coughing and spitting are most prevalent. Don't permit the "cold malady" to spread through your plant and wreck your production schedule because of uncontrolled spitting habits.

Burnitol waterproofed paper cuspidors, conveniently placed, provide sanitary protection. Encourage your workers to keep their factory-home clean and healthful by this sanitary measure.

1,000 cost only \$8.60 F. O. B. Boston or send \$3.50 for a trial order of 250—sent prepaid.

Burnitol Manufacturing Company
Everett Station Boston, Mass.

Worth's ANTI-SLIP

Floor Cleanser

SAVES TIME AND MONEY

Keeps Dirt Out

MODERNIZE your methods of cleaning. New and original floor cleaning and sweeping compounds for wood, metal, marble, mosaic, terrazzo floors.

EASILY APPLIED, merely scatter over floor and and **SWEEP** with push-broom. This **SINGLE** and **SIMPLE** operation lays **DUST**, takes up **DIRT** and **CLEANS** swiftly.

LEAVES FLOOR ABRASIVE, protects from injuries due to slipping and automatically reduces liability risks.

Approved for use by casualty insurance companies.

Obtainable in 10 pound packages or in steel drums of 50, 100 and 250 pounds.

WORTH MILLING COMPANY, Inc.

Middletown, Conn.

36 West 44th Street, New York City

Tel.: Murray-Hill 2, 2050

THE HONOR ROLL

Details of no-accident records in excess of 400,000 man-hours, or 200 working days, are invited for this department

Associated Industries of New York

Five of the manufacturing units participating in the second annual elimination safety contest conducted among member companies by Associated Industries of New York State, Inc., have completed an entire year as of August 31, 1932, without a lost-time accident. The records of these five firms are as follows: The Pullman Company (Buffalo shops) 1,738,243 man-hours worked; M. Wile & Co., Inc., Buffalo, 1,227,355 man-hours; L. C. Smith & Corona Typewriters, Syracuse, 923,319 man-hours; L. C. Smith & Corona Typewriters, Groton, 889,213 man-hours, and Layman-Berkwitz-Scott, Inc., Newburgh, 853,900 man-hours.

Consumers Power Company

The following units of the Consumers Power Company, Jackson, Mich., have notable safety records, as of August 1, 1932. The entire Western Division of Consumers Power Company has worked since February 26, 1929, without a lost-time accident, making a total of 1,676,326 man-hours. Other records are as follows:

The Lansing gas distribution department has worked since July 14, 1927, 1,564,073 man-hours.

The entire Southern Division has worked since November 19, 1930, a total of 703,762 man-hours.

The Kalamazoo gas distribution department has worked since August 12, 1926, a total of 639,502 man-hours.

The Alma district has worked since November 6, 1929, a total of 421,454 man-hours.

The Flint gas plant has worked since September 30, 1930, or 419,655 man-hours.

The Kalamazoo gas plant has worked since November 1, 1928, a total of 413,064 man-hours.

The Grand Rapids electrical distribution department has worked since July 28, 1931, or 411,181 man-hours.

St. Croix Paper Company

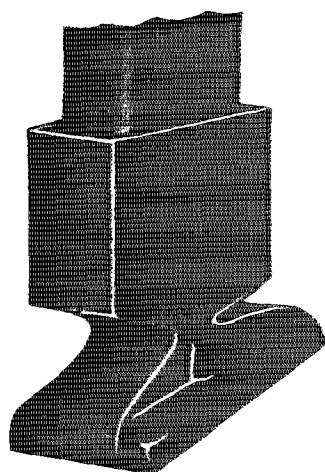
The employees of the St. Croix Paper Company, Woodland, Maine, completed a full year without a lost-time accident on September 20, 1932. This is a new and highly prized company record, the man-hours totaling 803,006. Four hundred and nineteen employees participated in this accomplishment.

M. J. Whittall Associates

Every mill in the large group of M. J. Whittall Associates, Ltd., Worcester, Mass., reduced its accident frequency rate during the fiscal year ending August 1, 1932. The Worcester mill, employing 193 persons, worked through the entire year without a lost-time accident. So, also, did the Palmer mills with 40 employees, this

NATIONAL SAFETY NEWS

Engineers everywhere



have endorsed this Shoe

A trial order will convince
you of the many merits of
this anti-slip device

Johnson Ladder Shoe Co.
EAU CLAIRE, WIS.



Safety Costs Less

IT'S expensive to handle boiler plate with old-fashioned chains or hooks, which have a tendency to slip, causing accidents.

The use of Never Slip Safety Clamps will reduce these expenses, because these clamps do not slip. Two clamps and chains will do the work of four bent hooks and chains, and do it without harming the plate. Even at an angle, Never Slip Clamps will hold work without slipping. Made in two styles for lifting plates horizontally and vertically.

Write for details

Never Slip Safety Clamp Co.
Room 513
51 East 42nd St. New York City

being the second consecutive year for these mills. The Seamless, Palmer, Edgworth and Dedham mills, employing 196 persons, worked 304,329 man-hours without a lost-time accident. Total frequency dropped from 12.44 in 1931 to 2.95 in 1932. Total severity dropped from 1,730 in 1931 to 331.2 in 1932. The total frequency of all accidents, including lost-time accidents and those requiring medical attention from parties not regularly employed by the organization, dropped from 39.00 in 1931 to 23.46 in 1932.

Virginia Electric and Power Co.

Employees in the electrical departments of the Richmond and Carolina divisions of the Virginia Electric and Power Company, Richmond, Va., numbering 860, on August 31 had worked through 147 days, or a total of 715,107 man-hours without a lost-time accident. On this date the production department of the Richmond district, with 170 employees, had worked 964 days, for 1,201,908 man-hours without a lost-time accident.

CORRESPONDENCE

WHAT IS A DEMAGOGUE?

St. Louis, Mo.—I have just read the October National Safety News and for the first time have a criticism to offer. That is a much better batting average than most magazines can show, yet I think there is small excuse for this particular "strike-out."

Under the heading "Too Much Tolerance" this line appears: "apropos of the investigation of the conduct in office of a certain dapper and wise-cracking demagogue." Now I hold no brief for Ex-Mayor James J. Walker, and probably even agree with the thinly veiled characterization, but I do feel strongly that political personalities should be kept out of these columns.

Had "Ex-Mayor" been substituted for "demagogue" there could have been slight offense, though the implication would still have been unfavorable. As a matter of fact, how does the editor know that Walker is a demagogue? Isn't that merely personal opinion? And what connection is there between accident prevention and the personal opinion regarding some particular individual in public life?

Let's stick to our knitting and we'll turn out a better "sock" against accidents.

E. K. EASTHAM, Director of Personnel
St. Louis Public Service Co.

Air Passengers Overcome by Carbon Monoxide

FOUR passengers in a tri-motor plane flying between Chicago and Kansas City were overcome by carbon monoxide gas from a defective heater shortly before the plane landed at Kansas City on October 11.

They were discovered in an unconscious condition when the co-pilot went back to announce that the airport was near. A radio message to the landing field brought ambulances and all four men were removed to a local hospital. Their condition was pronounced not dangerous.

Automatic Protection



For Punch Press Operators

WIESMAN Guards are automatic. No buttons to push. No levers to work. No adjustments to take the operator's time. Right or left sweep, they keep production at capacity.

Wiesman guards not only quickly save their cost in reducing accident expense, but also pay for themselves in increased efficiency of unhampered workers.

There are over 17,000 in use.

Let us send YOU a Wiesman Guard for 30 day free trial.

Wiesman Mfg. Company
31 South St. Clair St.
Dayton, Ohio

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

HOPPER CAR TOOL

The accompanying illustration shows the Prescott Safety Tool set for closing the latch type hopper car door. By using it, the manufacturers claim, many hazards now in practice are eliminated and the door is closed with utmost ease and safety.

The tool operates by adjusting the chain through the clamp to proper length so that when the hook is attached to the open door, the fulcrum portion of the bar reaches the upper face of the angle ex-



tending across the hopper incline sheet, the handle extends at almost right angles to the side of the car. This is the position shown in the picture. The door is then readily closed by pulling the handle in an almost horizontal direction toward the car until the door locks.

The Prescott Safety Tool is manufactured by The Trumbull Manufacturing Company of Warren, Ohio.

* * *

LADDER SHOE

Rose Manufacturing Company, 2265 South Logan Street, Denver, Colorado, has developed a new corrugated ladder shoe made of automobile tire cord, set in rubber, known as the "Safe-Hi".

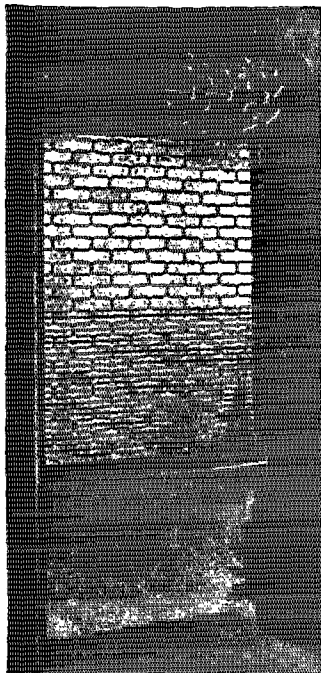
Manufacturer claims this shoe will hold at more than normal working angle on smooth concrete where grease, oil or soap is present. The ridges of mixed cord and rubber act as a series of squeegees, cutting through the water or grease and making contact with the floor.

The shoe is made with a spike at the back and where snow and ice is encountered, the shoe is simply turned over to rest on the spike. It is light in weight, strong, cadmium plated and will fit any ladder.

ROLLING GRILLES AND GATES

Cornell Iron Works, Inc., 3610 13th street, Long Island City, New York, have placed on the market the Cornell Rolling Grille, which is available in many shapes and sizes to meet requirements.

This Grille, governed by the Cornell system of counterbalance, operates with speed and ease. Larger sizes are operated with simple mechanical means. All equipped with locks. The Grilles consist of rolled and pressed steel bars joined



together with strong ornamental links with straight links in side guides. Travel up and down in two vertical cold rolled steel channel shaped guides, about 1 1/4 x 1 1/4 in. Grille cannot be pulled out of tracks, the manufacturer claims.

Grilles when coiled up on horizontal shaft are between 10 and 16 inches in diameter. Usual installations are made on face of wall, as shown in illustration. They can be made to coil under lintel and if furled in become entirely hidden when open.

* * *

[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.]

NEWS ITEMS

The Pyroil Company, LaCrosse, Wisconsin, announce the adoption of a new trade



name label to identify the products of the Pyroil Lubricating Process.

* * *

E. D. Bullard Co., manufacturers and distributors of mine and industrial safety equipment, has enlarged its facilities at Salt Lake City and Houston.

"We think that the last half of 1932 is the start of a new period of reconstruction and progress," said E. W. Bullard, President. "Most organizations have now adjusted their operations. They are looking forward to the next period rather than still looking back at the period that has passed. A careful check-up of the situation leads us to believe that conservative increase in facilities is a wise policy at this time. Therefore our enlargements."

The Salt Lake City office of the E. D. Bullard Company in charge of Jack Coombs, veteran safety engineer of the Inter-mountain territory, is located at 1620 Walecrest Ave., Salt Lake City. The new address of the new Bullard Houston office, in charge of J. J. Delahide, long identified with safety activities in the Mid-continent territory, is located at No. 1 Main street, Houston.

* * *

A. M. Barrett again assumes complete control of the Barrett-Cravens Company, manufacturers of lift-trucks, skids, portable elevators and structural steel storage racks. They will move into their own three-story plant at 3255 West 30th street, Chicago, Illinois, where 75,000 square feet of space will be made available for them. Mr. Barrett in a recent interview expressed himself well pleased with the general outlook and predicts a slow but steady increase of general business for several years to come.

NATIONAL SAFETY NEWS

Mine Safety Record Made by Cement Company

"THE Alpha Portland Cement Company's mine at Ironton, Ohio, has established a safety record for an underground mine which is probably the best of which we have been able to get information to date," said Dan Harrington, chief engineer of the Safety Division of the U. S. Bureau of Mines, recently upon being informed of the establishment of a six consecutive year safety record by the employees of this mine.

On September 27, 1932, the employees of the Ironton mine had operated a total of 2,197 days or over six years without a lost time, partial disability or fatal accident. There was an average of 63 employees for this period, with a man-hour exposure of 569,848.

The lowest safety record ever established by a coal mine, according to the U. S. Bureau of Mines, is 475 consecutive days. This was set by a mine in Virginia which employed approximately 250 men, who worked a total of 509,232 man hours in that period. A mine in Michigan holds first place among metallic mines with a record of 591 consecutive days without accident, covering 365,129 man-hours exposure to 103 employees.

Safety Contest Winners to Broadcast Messages

BELIEVING that safety on the highways is everyone's problem, the Massachusetts Governor's committee on street and highway safety has announced a radio safety contest in which every man and woman in the state is invited to participate.

The committee has asked the public to submit short written broadcasts on any phase of highway safety which the writer cares to stress. These broadcasts will be judged by a committee of five, including the registrar of motor vehicles.

The broadcasts will be divided into four classes: (1) from the man who drives an automobile; (2) from the man who does not drive an automobile; (3) from the woman who drives an automobile; (4) from the woman who does not drive an automobile. Thus the non-owner and non-driver has an equally important place in the contest. After the broadcasts are judged, the winner in each class will read his safety message in person over stations WBZ and WBZA, and each will be a guest of the Governor's committee at a luncheon on the day the broadcast is made. No cash or other prizes are offered.

NOVEMBER, 1932

Trade Publications

for your

SAFETY EQUIPMENT LIBRARY

Safety Information on File

A reference file of trade publications on safety equipment should be a part of every plant's ammunition for the battle of controlling accidents. A wealth of valuable data and information is yours at no charge and with no obligations. Every executive should avail himself of these publications—much help in the every day problems of efficiency, safety and profitable operation are found in them. Mail the coupon today!

1. **Methane Indicating Detector.** Illustrated pamphlet on indicator for the immediate detection and measurement of methane encountered in coal mining. Linde Air Products Co.
2. **Audiometer.** Booklet describing the No. 3A Audiometer for use in making aural tests among employees. Western Electric Co.
3. **Cutting and Grinding Facts.** An attractive booklet containing information on cutting oils. The proper mixes for use in various operations are carefully explained. Sun Oil Company.
4. **Double Duty Tire Chains.** Booklet gives size and price of tire chains for all makes of motor vehicles. Pyrene Manufacturing Co.
5. **Servus Safety Rubber Footwear.** Folder announcing the development of safety rubber footwear with non-slip soles and heels. The Servus Rubber Company.
6. **Protective Apparel.** All types of protective clothing, leggings, gloves and safety materials for every need illustrated and described in this 31-page catalog. Made of asbestos, fireproofed duck and chrome leather for use in various hazardous operations. F. H. Wheeler Mfg. Co.
7. **Safety Service.** A general catalog illustrating and describing a complete line of emergency, first-aid and safety equipment. Davis Emergency Equipment Company, Inc.
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OF NATIONAL SAFETY NEWS, published monthly at Chicago, Ill., for October 1, 1932.

State of Illinois, County of Cook, ss.

Before me, a Notary in and for the State and county aforesaid, personally appeared W. H. Cameron, who, having been duly sworn according to law, deposes and says that he is the business manager of the NATIONAL SAFETY NEWS and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor and business managers are:

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Managing Editor—None.

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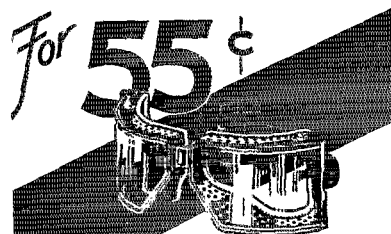
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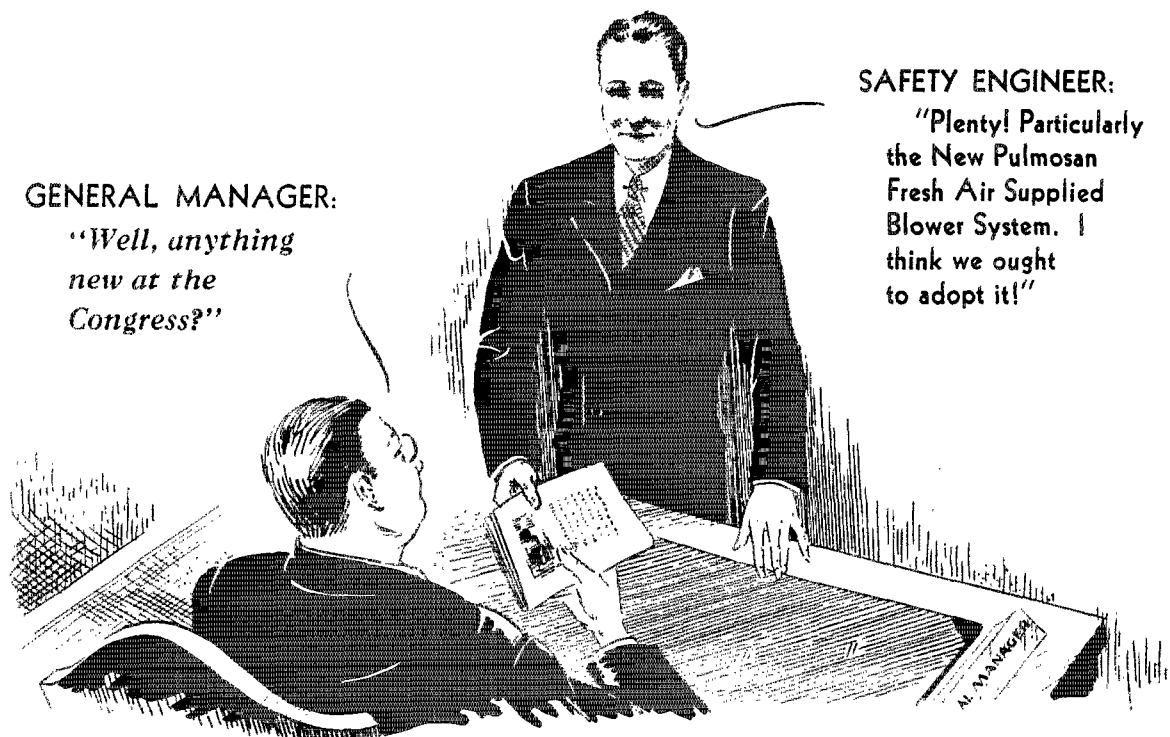
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