

4. Eliminate protruding obstructions which workmen may strike against. Where this is impossible, post warning signs and paint the obstructions with bright colored paint. If you are going to speed up the tempo of the job and secure more results per hour for each man, the field must be cleared for quick operations back and forth. Some obstructions cannot be removed, and these should be marked so that quick detours are possible without slowing up the speed of the operation. Danger signs should be posted in passageways where there is insufficient overhead clearances. Runways and passageways should be kept free from loose materials and rubbish.

5. Adequate lighting, particularly where footings are uncertain or where there are dangerous projections, is important. As soon as a man is hurt on the job the news is instantly spread among all the workmen and they immediately slow up to prevent such an accident happening to them. The job cannot be kept in high gear if the men are thinking in terms of moving slowly and carefully.

6. Insist that all employees wear good heavy soled shoes. This is perhaps the easiest and simplest rule to support and the one that will be the most productive of results. In our own company we put on a "shoe examination" at payoff time with the warning that if they do not have heavy soles they do not need to come back Monday morning. If men are not afraid of stepping on something and injuring their feet, they will snap into the need that is required to reduce unit costs.

The cost of handling materials is one of the largest items on any piece of construction work and these costs can be lowered by safety rules such as the following:

1. Construct suitable toeboards around all floor openings and at the edges of the platforms, scaffolds and staging.
2. Caution workmen against placing tools, rivets, bolts or other materials at points from which they may be accidentally pushed or knocked off on somebody below.
3. Materials should never be dropped from overhead unless absolutely necessary. In such cases, make sure that any person below is warned.
4. Materials may be passed or carried from point to point and should never be thrown.
5. Never permit workmen to stand or walk beneath swinging loads.
6. Materials should be piled carefully so they cannot topple over.
7. Where it is necessary to stand bulky material, such as planks or forms on end, they should be placed so they cannot be blown over or upset.
8. Warn workmen against dislodging materials when taking supplies from piles or trucks.

Occupational Disease Hazard of Silicosis in Construction Operation and Its Prevention

By D. HARRINGTON

Chief, Health and Safety Branch, United States Bureau of Mines,
Washington, D. C.

The speaker said in part: This paper is based on approximately eight years of personal study of the effect of underground dusts on health and safety, supplemented by about twenty-five additional years of close attention to data and studies made by others. The subject will be handled from an engineering viewpoint rather than from that of the pathologist, the doctor, or the lawyer; and while this is unusual it should

be logical, as the real solution of a serious and widespread industrial health problem, brought about by breathing dust, is that of prevention of dust disease.

There appears to be warrant for the conclusion that any dust, or combination of dusts—whether of a coal or metal mine or a tunnel—which is insoluble or soluble with difficulty in the fluid- and tissues of the respiratory organs, is likely to be harmful ultimately to the health of underground workers, if it is present in the air in minute form and is breathed in large quantity over large portions of the working shift for any considerable number of months consecutively per year; some soluble dusts which occur in underground workings are also decidedly harmful. It appears that the quantity of dust in the air breathed more or less continuously, together with its lack of solubility or difficult solubility, governs the hygienic harmfulness of dust to workers much more than do the specific physical or chemical qualities of the dusts likely to be found in underground workings; this does not mean that air containing a large quantity of finely divided flint dust or similar hard, sharp, insoluble material is not likely to be more harmful than air containing a similar quantity of probably less inherently harmful dusts, such as very fine limestone, coal, or shale. Breathing comparatively small amounts of finely divided free silica or similar hard, sharp, insoluble, supposedly more dangerous type of dust is, however, likely to be much less harmful to health than breathing much larger amounts of less inherently harmful dust, such as that from coal, shale, hematite, ore, or limestone, or combinations of such dusts.

Physical examination of underground workers shows that men who work in very dusty places in coal mines have definite respiratory disease, whether the dust is from coal only or from a mixture of coal with rock or shale or clay. Men have worked in coal mines and have then gone to work in dusty metal mines or tunnels and have become affected by miners' consumption, or have worked in metal mines or tunnels and later have succumbed to respiratory disease after having worked in dusty places in coal mines. While dusts insoluble or difficultly soluble in the pores and tissues of the respiratory organs are chiefly responsible for respiratory disease in miners, there are certain soluble dusts of lead, arsenic, and other rocks or ores which are definitely poisonous or which result in material harm to the health of workers.

That the quantity of dust breathed is the important point in the harmfulness of dust is a certainty; yet to state what is that dangerous quantity or what is a safe limit is difficult, in fact, is impossible with our present facilities and knowledge. In South Africa an arbitrary limit of 5 mg., or 500,000,000 particles per cubic meter of air, was set. Their recent reports, however, give the average air dustiness of the working places as around or just over 1 mg. per cubic meter of air; there is probably not one dry mine or tunnel in the United States where the average air dustiness of working places is as low as 5 mg. per cubic meter of air (the South African standard) or 10 mg. per cubic meter of air (the standard set by Higgins and Lanza in their study of miners' consumption in the Joplin, Mo. district in 1915), and a recent state regulation restricts the number of dust particles to a maximum of 15,000,000 per cubic foot of air or about 530,000,000 per cubic meter. In general, the average air dustiness of working places of our dry metal mines runs above 20 mg. per cubic meter of air and many run above 50.

The outstanding remedy for the bad situation with respect to dust disease (in many localities a most distressing one) in underground workings is education—education of underground workers in the necessity of taking such precautions as are available; of employers in recognizing the seriousness of the situation and in providing devices and methods to reduce or prevent the incidence of disease and, if necessary, enforcing

their adoption on the workers; of the doctors in correctly diagnosing the disease, giving publicity to its prevalence, seriousness, preventive remedies, etc., and in death certificates religiously assigning dust disease as the cause where such is the case; and of the merchants, newspapers, and other influences in the community in trying to prevent the disease rather than in hiding its existence.

As specific remedial measures for metal mines and tunnels, the writer suggests the following: mechanical ventilation, with a definite person or persons in charge, should be adopted to force moving currents of air in every place where men work in order to remove dust, heat, and gases. The use of water should be enforced in all drillings, in the sprinkling of ore and rock piles, in the wetting of timbers, man and haulage ways, and in every place where dust may be found. Where possible, the blasting should all be done after a shift; where this cannot be done there should be an enforcement of strict regulations as to the wetting of the region of blasting both before and after firing the shots, as to the removal of all explosive fumes by adequate air currents, and as to the prevention of entrance into a blasted place until all dust, fumes, etc. have been removed. There should by all means be strict physical examination of underground workers before employment and at periods of not more than six months during the employment, with prompt removal from dangerously dusty work should unfavorable physical symptoms be found.

In our coal mines education is also badly needed.

The dust health problem of the contractor is likely to be somewhat different than that of the mine operator—yet some of the factors are fundamentally similar. There is no question that far too much stress has been laid on silica dust and silicosis when the emphasis should be placed on the very definite dangers to workers in breathing a large quantity of any and all kinds of finely divided dust which the worker accumulates or is likely to accumulate day by day in his system; the resultant respiratory disease should be termed pneumoconiosis or simply dust disease rather than silicosis or anthracosis, etc., since it is highly probable that no person has ever been incapacitated by the breathing of any single dust but rather by a combination of dusts.

While it appears that all dusts and combinations of dusts which are breathed into the respiratory passages in large quantities and over considerable time periods are likely to be harmful to health, unquestionably some dusts are relatively more harmful than others: some have effect in one manner, some in another; some dusts affect the lungs, some the bronchial apparatus, some the eyes, some the septum of the nose, some the stomach and some the skin; some individuals have considerable resistance to the harmful effect of breathing dust, others are readily susceptible to it; some nationalities are likely to succumb quickly to dust disease, and others are much better able to resist its inroads on health. Having breathed one kind of dust does not aid any human being to resist any other kind of dust; tuberculosis may accompany the other ills due to breathing of silica dust, but tuberculosis does not always accompany or result from breathing silica dust; tuberculosis may occur in connection with the breathing of coal dust or other dusts, though it is not so likely to be found in connection with coal and with some other types of dusts; silica as a rock, whether as free silica or as a silicate, is practically insoluble in water, but when in the form of very finely divided particles which float in air these very finely divided particles are readily soluble even in water; no human being knows what percentage of silica in a dust is likely to give silicosis, whether 5 per cent, 25 per cent, 50 per cent or more, and silicosis (so-called) is alleged to have been caused by breathing dust with as little as 3 per cent silica; no person knows what quantity of dust in air (silica or other dust) is likely to be dangerous though numerous arbitrary standards of air dustiness are

given to the public, these standards ranging from as low as 250,000 particles per cubic foot of air to 15,000,000 particles; present methods of determining air dustiness, whether by weight or by count of particles, are anything but accurate or dependable; while the x-ray is unquestionably useful in determining the condition of the respiratory passages as to dust harm, it is improbable that any person can from the x-ray alone determine whether the person x-rayed has silicosis, anthracosis, or any other specific type of dust disease; practically every human being breathes silica dust, as 50 or more per cent of the earth's crust with which we come in contact is siliceous and probably 15 or more per cent is free silica and all of us breathe dust from fields, roads, etc.; dusty air, with high temperatures (say, over 80 degrees Fahrenheit) and high humidity, is more likely to be harmful because of dust than air with less trying temperatures; dust laden air contaminated with gases, such as high carbon dioxide or high carbon monoxide, is more likely to give ill health from dust than would air free of high content of extraneous gases; dust disease may incapacitate its victim or may kill him in less than a year from the time he first works in the dusty place, but in general it takes a much longer period; it is said that any person may work in a dusty atmosphere for several years without apparent ill health, yet several years after leaving the dusty work, may succumb to dust disease; generally when a worker has become afflicted with dust disease, it is impossible to cure him so as to completely remove the ill effects, and this is aptly expressed by a doctor in "The American Stone Trade", August, 1933, as follows: "No treatment for the cure of silicosis is known. We can't make stiff tissues soft again. Prevention is the only resource." It is said that sickness causes at least eight times as much loss of time to workers as to industrial accidents and unquestionably one of the most prolific causes of sickness of industrial workers is the breathing of dust; dust disease unquestionably is the scourge of the industrial worker of today.

What can and should be done about it?

First of all, industry should recognize that any and all dusts breathed in large quantities for a long period are likely to be dangerous to the persons who breathe them; then available measures should be taken to prevent air dustiness, the most essential being:

1. Use water in drilling, or sprinkling surfaces, or in connection with processes.
2. Use the best possible ventilation to sweep away any fine dust which may get into the air where people work.
3. Install the best available equipment to prevent dust formation.
4. Have every person in the organization undergo a real physical examination before entering the organization and at stated intervals (not less than annually), with removal from dusty air as soon as symptoms develop in the respiratory tract.
5. All those really interested in the preservation of the health of workers should familiarize themselves with available data as to dust dangers; a limited bibliography.
6. While there is now an enormous amount of litigation as to dust disease chiefly of the misnomer "silicosis", knowledge of a definite, dependable, accurate character about dust disease is woefully lacking and there is probably no more fruitful field for concerted, unbiased, disinterested investigation than that in connection with the harmfulness from dust. Industrial organizations, co-operating with the state and the Federal government as well as other parties, should institute studies as to dust disease to have available authentic disinterested data for use not only in connection with the numerous court actions now pending, and likely to increase, but also as a solid background for state regulations and state laws which now are being framed without dependable data chiefly because no really dependable data are in existence.

Effective Safety Program for Contractors

By J. C. WILSON

Vice-President in Charge of Safety, Lumbermens Mutual Casualty Co., Chicago

The speaker said in part: Taken as an entire industry, there are few mechanical operations in the construction game—very few hazardous machines to be guarded. It is therefore plainly evident that accident prevention in this line is distinctly one which rests on the human element.

Our company has specialized in accident prevention and has had some success in assisting members of the "A. G. C." to reduce and prevent accidents. As a brief outline of an effective safety program for contractors, I would like to submit the following, developed through years of constant effort on this particular problem. We studied more than 1,000 construction accidents and found the outstanding causes to be: 25 per cent stepping on or striking against objects; 18 per cent handling objects; 15 per cent struck by falling objects; 13 per cent falls of persons; 10 per cent flying particles in eyes; and less than 5 per cent of all accidents studied could have been prevented through the use of additional mechanical safeguards. Thus 95 per cent could have been prevented by properly educating the workmen in safe practices, or in other words by insisting on obedience in necessary rules for their own safety.

With this as a foundation, we opened a campaign to educate the foremen so they in turn could train their workmen to guard against these causes—to watch constantly and to follow through on a program requiring full co-operation from everyone on the job.

We suggest holding a foreman responsible for his results including accidents. To this end, a report form has been prepared which supplements the regular accident report. It requires the foreman's personal investigation and his written statement covering what happened—why—how and what has been done to prevent another accident like it.

A safety committee should be formed as soon as the new job starts. The timekeeper is usually the secretary and the superintendent the chairman. As each type of work is added the foreman of that crew is made a member. This committee will have complete charge of accident prevention, and by constantly training the new men and always watching the work as it progresses should have no difficulty in avoiding accidents. A safety engineer will make regular inspections, review accidents and maintain interest in accident prevention.

The system of posting bulletins around the job—placing safety slogans inserts in pay envelopes—requiring each employee to study the rules—sending safety letters to the workmen's homes—all are a part of a general program and add to the results of intelligent supervision.

Much success has followed the use of charts which analyze the accidents reported over any given period of time—usually monthly where a large crew is working. These are divided by foremen and charted as to cause. They require full co-operation from the management as does any scheme in a safety program. With the contractor's help, a safety meeting is called and each superintendent, foreman, and straw boss is present to discuss each accident and to explain to the safety committee just what happened and why.

But—and here we put it up to you—if the meeting ends there and the big boss does nothing—as happens many times—the accidents will continue. If he takes proper action and follows up the foreman, he will soon have a good record and a safe job.

Following this procedure on a certain large job, with a force averaging about 450 employees, their lost time record by months was as follows: January, none; February, one; March, none; April, one; May, three; June, one; July, none; August, none; September, five; October, none; November, four; and December, one.

The complete co-operation prevailing between this firm and their insurance company, and in fact every one of the 450 workers all down the line, which made possible this record of but sixteen lost time accidents in the whole year; five months with no lost time accidents, and with four months with but one lost time accident; should clearly indicate that safety pays big dividends and saves construction costs.

WEDNESDAY MORNING SESSION

October 4, 1933

The chairman called for the report of the Nominating Committee, and this was presented by W. F. Tubering, Associated General Contractors of America, chairman of the committee, and officers were elected as follows:

General Chairman—John Russell, Jr., United Engineers & Constructors, Inc., 80 Park Place, Newark, N. J.

Vice-Chairman—W. G. Wheeler, Building Trades Employers Association, 2 Park Ave., New York, N. Y.

Vice-Chairman for Engineering Projects—P. R. Manetta, Jr., Thompson Sturrett Co., 250 Park Ave., New York, N. Y.

Vice-Chairman for Utility Construction—C. H. Black, Stone & Webster Engineering Corp., 49 Federal St., Boston, Mass.

Vice-Chairman for U. S. Engineering Department—Capt. Elliott Vandevanter, U. S. Engineer Office, 2830 Munitions Bldg., Washington, D. C.

Secretary—Robert McKinley, General Accident Fire & Life Assurance Corp., 469 Ledyard St., Detroit, Mich.

News Letter Editor—Edgar N. Goldstone, State Compensation Insurance Fund of Calif., San Francisco, Calif.

Engineering Committee Chairman—J. C. Forester, The L. E. Myers Co., 1314 Monadnock Bldg., Chicago, Ill.

Membership Committee Chairman—Norman Wellings, Booth & Flinn, Ltd., 1942 Forbes St., Pittsburgh, Pa.

Poster Committee Chairman—James N. Doyle, James N. Doyle, Adjustment Bureau, Reg'd, 353 St. Nicholas St., Montreal, Quebec, Can.

Program Committee Chairman—R. J. Reigeluth, C. W. Blakeslee & Sons, 58 Waverly St., New Haven, Conn.

Publicity Committee Chairman—Thomas W. Walton, Henry W. Horst Co., 1505 Race St., Philadelphia, Pa.

Statistics Committee Chairman—W. A. Snow, Associated General Contractors of America, Inc., 1329 E. Street, N. W., Washington, D. C.

Members at Large

W. F. Austin, 4649 Humboldt Ave., Detroit, Mich.

Miss E. S. Ghee, McLaury Marble Corp., Walnut Ave., and East 141st St., New York City.

W. R. Richards, Bureau of Contract Information, 729—15th St., N. W., Washington, D. C.

George Widna, Builders and Manufacturers Mutual Casualty Co., 120 S. LaSalle St., Chicago, Ill.

The Safety Program of the San Francisco Bay Bridges

By E. N. GOLDSTINE

Safety Engineer, State Compensation Insurance Fund of California,
San Francisco

The speaker said in part: An extraordinary effort is being made in the construction of the two San Francisco Bay bridges to assist the contractor in achieving the objectives that have been outlined. The State Compensation Insurance Fund of California, which provides the Workmen's Compensation Insurance coverage for most of the work insured, is working closely and harmoniously with the California Industrial Accident Commission, other insurance carriers, the bridge engineers, and all of the major contractors to eliminate accidents as much as it is possible to do so. Some of the measures adopted are here described.

The contractors are members of the Construction Section of the National Safety Council, and are displaying regularly by weekly changes from three to fifteen safety posters. Every employee has received an individual set of safety instructions. Any failure to observe them may result in dismissal. Every foreman has received an 18-page set of more comprehensive safety instructions. Every employee received every other week an employee publication prepared by the State Fund under the title of the "Bridge Builder," consisting of four or five pages. Its contents cover the nature of the work that is being done, description of the materials being used and how they are prepared, personal items about the men, safety cartoons, and one page on some aspect of accident prevention. At each location a supervisor of first aid employed by the contractors has been appointed. It is the part of his duty to see that first aid supplies are maintained; that all minor injuries are reported on a special form; that all cases requiring medical attention are thoroughly investigated and the facts recorded on a special investigation report; that safety posters are regularly displayed; that accident reports are promptly made out and sent in; inspections are to be made regularly, as well as being on the outlook constantly for any dangers that may be present; that safety suggestions are encouraged and heeded; that arrangements are made for any meetings with foremen or groups of employees.

Two of the contractors have had all key men in their organization present at a series of first aid talks, which was followed by a series of discussions on the experience of the respective organizations and what was to be done in the future. A third contractor has selected a dozen men to wear chromium plated safety badges and constitute a workmen's Safety Committee. They meet every week for half an hour for the same purpose. The first aid supplies have been carefully selected in the light of what would probably be needed for the work in hand. First aid stations equipped with stretchers and in one instance with a private ambulance have been set up. Safety contests have been held and prizes awarded. Comprehensive tabulations of accident experience have been prepared showing the number of days of lost time in various types of employment, by nature of injury, by body part injured, by general cause, by primary basic cause, by work groups, by days of the week, months of the year, and hours of the day. When they have an accident they know about it and come to the realization that it would be better not to have any more if they could possibly avoid it by reasonable foresight.

Safety Measures in the Construction of Municipal Facilities

By SAMUEL A. GREELEY

Pearse, Greeley & Hansen, Chicago

Unfortunately, since Mr. Greeley spoke extemporaneously from miscellaneous notes, no copy of his address is available. However, he particularly stressed the necessity of dealing with the general public in this type of construction, especially where the construction work consists of public highways and open cut sewers, which pass through various towns along the right-of-way. He pointed out the necessity of the proper storage of materials, the protection of trenches and machinery used on the operations, etc. In tunnel and open trench work he stated that probably the greatest hazard was that of cave-ins, being caused by poor shoring, rains, etc. He also brought out that the improper handling of explosives caused a great many accidents. Another hazard is the lack of specific requirements not being covered in the specifications by the engineers. He claimed that the specifications should be very clear in reference to accident prevention, this should be covered so that there can be no guesswork on the part of the contractor.

Sanitary requirements should also be clearly defined. He pointed out several instances in the past where jobs were seriously interrupted by disease and desertion. Personal hygiene is an important factor where camps are necessary. The men should be required to bathe frequently, be provided with changes of clothing, bunk houses should be kept clean, blankets and bedding should be aired frequently. Emphasizing the importance of sanitary and proper hygienic conditions, he pointed out on one job where 2,500 employees were working, that in a period of one year they had only four cases of pneumonia.

Safe Practices in Construction Work

By R. J. REIGELUTH

C. W. Blakeslee & Sons, New Haven, Conn.

The speaker said in part: In 1929 our firm was faced with the problem of reducing accidents or bearing an increased cost of insurance. We made a study of our accidents and found ten major items of cost which are definitely caused by accidents.

1. There is the increase in cost of insurance owing to a higher rate imposed for bad experience.
2. There is an expense which results from the interference with production caused by an accident.
3. There is an expense following the accident owing to a demoralization of the esprit de corps. The resulting timidity and nervousness of employees who observed or knew about the accident slows up production.
4. There is also a definite cost in connection with the training of substitutes for the injured men.
5. Another item of cost is in connection with spoiled work. This is incident to almost every accident.
6. Frequently on serious accidents, the cause of the accident or the result of the accident is damage to equipment, which must be repaired before the work can continue.

7. If the equipment has not been damaged, it will at least have to stand idle while repairs are being made, either to the crew or to the work on which the equipment has been engaged.

8. If an organization is properly managed, it will not let any accident go by without investigation; therefore, the time of supervising and executive officers spent in investigating the accident are certainly items of cost.

9. The time lost by the injured for dressing, even when the accident is not serious, is an item of cost.

10. In connection with every accident of any serious nature, there is always considerable time lost by others in addition to the injured.

The idea prevalent among so many contractors that the cost of accidents does not seriously concern them because they are covered and protected by an insurance company, is palpably erroneous when you consider this list of ten items of costs which have to be borne definitely by the contractor.

We faced this situation squarely in our organization and found that the accidents we were carrying under self insurance on comparatively safe projects cost us \$4.08 per \$100 of payroll, whereas the insurance on hazardous jobs that we carried with the insurance company cost us only \$3.70 per \$100 of payroll. When we added to these insurance costs the other nine items of cost, we found that it was necessary that we find some way of securing safe practices and so lower our cost of protection. We were able to accomplish a move in this direction because our executives were roused to the seriousness of the situation.

We found that the first thing to do was to get our superintendents and foremen together. We held the meetings once a month and had our superintendents and foremen come in to attend them for an evening dinner. We brought them from their work, no matter where it was, in some cases it being necessary for them to travel all day to attend the meeting. We found, however, that the costs of the meetings were amply justified by the reduction in the cost of accidents.

At these meetings we read the record of accidents on each job, giving emphasis to the good records as well as the bad ones. We also had instruction talks on matters of vital interest to the men and items which had direct bearing on the question of safe practices. Our speakers included men from insurance companies, rope and cable manufacturers, and also some of our own organization. They talked on such subjects as rope, cable, chains, boilers, and methods, and exhibited broken tools and other factors entering into accidents which could easily be brought to the meetings. When we had carried the meetings to the point where the men became interested in safety, we gave them definite orders on the adoption of safe practices. We found that there was no particular advantage in appealing to them on the humanitarian side, but we did find that they would accept orders from us on the question of safety the same as they accepted orders on other features of the work. We placed the responsibility definitely on the foremen and superintendents.

We succeeded in carrying on for over a year without a single accident by our truck drivers. We operated four of our quarries for over two years without a single lost-time accident. In 1929 our construction branch of the business reported 4.52 lost hours for every thousand hours worked. In 1930 the ratio was 5.20, but in 1931 the results of our efforts began to be apparent when we lost .007 per thousand hours worked, and in 1932 our record in the construction field was even lower than that.

ADJOURNMENT

TWENTY-SECOND ANNUAL SAFETY CONGRESS NATIONAL SAFETY COUNCIL



Delivery, Taxicab and Bus Section

Officers 1932-33

General Chairman—CARROLL V. WELLS, Pillsbury Flour Mills Co., Minneapolis, Minn.

Vice-Chairman for Delivery Fleets—F. E. TAMS, H. J. Heinz Co., Pittsburgh.

Vice-Chairman for Taxicab Fleets—S. S. GREENBERG, Maxwell-Davis, Inc., Hartford, Conn.

Vice-Chairman for Bus Fleets—ALEXANDER SHAPIRO, Washington Rapid Transit Co., Washington, D. C.

Secretary and News Letter Editor—RICHARD LEONARD, The Taxi Weekly, New York City.

Chairman Poster & Slide Committee—VICTOR I. NUTLEY, Northwest Casualty Co., Seattle.

Chairman Program Committee—C. G. HOWARD, Wicholdt Stores, Inc., Chicago.

Chairman Publicity Committee—CHAS. H. RUTH, Evening Star Newspaper Co., Washington, D. C.

Chairman Membership Committee—B. C. SKEEN, City Ice Co. of Kansas City, Kansas City, Mo.

Chairman Statistics Committee—A. E. LUNDSTADT, Bowman Dairy Co., Chicago.

Chairman Engineering Committee—WILLIAM E. SANFORD, The United Electric Light & Power Co., New York City.

Members at Large—

ROBERT CLAIR, Liberty Mutual Insurance Co., Boston.

H. L. CUMMINGS, Yellow Cab Co., Richmond, Va.

MARCUS A. DOW, Greyhound Management Co., Cleveland.

DALE HARMAN, Yellow Cab Co., Kansas City, Mo.

T. A. HOBROCKS, Minnesota Truck Owners' Assn., Minneapolis, Minn.

H. A. INNESS-BROWN, The Taxi Weekly, New York City.

T. R. JOHNSON, United Parcel Service of New York, New York City.

G. F. C. TAYLOR, Shell Eastern Petroleum Products, Inc., New York City.

J. J. ZEINER, New York City.

TUESDAY MORNING SESSION

October 3, 1933

The first session of the Delivery, Taxicab and Bus Section was called to order by C. B. Auel, the Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., who welcomed the delegates in the name of the Executive Committee of the National Safety Council. He then introduced General Chairman C. V. Wells, Pillsbury Flour Mills Company, Minneapolis, Minn., who presided. Chairman Wells opened the meeting for formal business, and the following actions were taken:

1. The old set-up of sectional officers was changed to consist of one general chairman, fourteen vice-chairmen for different types of fleets, a secretary who is also to serve as head of the Program Committee, three chairmen of general committees on Engineering, Posters, and Statistics, respectively, besides which there are to be an indefinite number of members at large, including the past general chairman of the section.

2. It was decided to go over the sectional membership to weed out those who had been automatically enrolled but had no particular interest in the activities of the section, and to invite through the News Letters of other sections other Council members with fleets of more than five vehicles to enroll in this Delivery, Taxicab and Bus Section. It is understood that all fleet members and insurance companies writing public liability insurance are to be retained automatically as section members.

Report of the Nominating Committee

Chairman Wells called for the report of the Nominating Committee and this was presented by Joseph Hollender, The Hollender Storage and Van Company, Chicago, Chairman of the Nominating Committee. The following officers were placed in nomination and elected:

General Chairman—C. H. Ruth, The Evening Star, Washington, D. C.

Vice-Chairman For Bakery Fleets—A. E. Cameron, Pie Bakeries, Inc., Newark, N. J.

Vice-Chairman For Beverage Fleets—T. A. Schendel, Premier-Pabst Corporation, Milwaukee, Wis.

Vice-Chairman For Bus Fleets (City)—Leonard E. Manuel, United Motor Coach Company, Des Plaines, Ill.

Vice-Chairman For Bus Fleets (Inter-City)—Earl Hensley, Pacific Greyhound Lines, San Francisco, Calif.

Vice-Chairman For Dairy Fleets—A. E. Lundstedt, Bowman Dairy Company, Chicago.

Vice-Chairman For Ice and Cool Fleets—L. W. Dawley, Southern United Ice Company, Jackson, Miss.

Vice-Chairman For Newspaper Fleets—W. F. Burk, Traffic Manager of the Canton Repository, Canton, Ohio.

Vice-Chairman For Petroleum Fleets—Clyde W. Smith, Standard Oil Company (Indiana), Chicago.

Vice-Chairman For Public Utility Fleets—H. N. Gainer, New York & Queens Electric Light & Power Company, Long Island City, N. Y.

Vice-Chairman For Retail Store Fleets—C. G. Hohart, Wieholdt Stores, Inc., Chicago.

Vice-Chairman For Taxicabs—Frank E. Toye, Toye Brothers Yellow Cab Company, New Orleans, La.

Vice-Chairman For Trucking (City)—H. E. Trezise, Koppers Seaboard Coke Co., Brooklyn, N. Y.

Vice-Chairman For Trucking (Inter-City)—D. M. Miles, Here Comes Meeks, Seven Mile, Ohio.

Secretary and Chairman of Program Committee—S. S. Greenburg, Maxwell-Davis, Inc., Hartford, Conn.

Chairman Engineering Committee—A. D. Prentice, Hartford Accident & Indemnity Company, New York City.

Chairman Poster Committee—V. L. Nutley, Northwest Casualty Company, Seattle, Wash.

Chairman Statistics and Contest Committee—George A. Meyer, Southwest Transportation Company, Texarkana, Ark.

Members at Large—

Marcus Dow, Greyhound Management Company, Cleveland, Ohio.

Robert Clair, Liberty Mutual Insurance Company, Boston, Mass.

Dale Harman, Yellow Cab Company, Kansas City, Mo.

C. V. Wells, Pillsbury Flour Mills Company, Minneapolis, Minn.

B. C. Skeen, City Ice Company of Kansas City, Kansas City, Mo.

C. C. Rosenberger, Markel Service, Inc., Kansas City, Mo.

George Widua, Builders and Manufacturers Mutual Casualty Co., Chicago.

A report of the Poster Committee, prepared by Victor L. Nutley, chairman of this committee, was read by G. J. Coleman, Northwest Casualty Company, Seattle, which called attention to the fact that all through the depression the Council has steadfastly offered a large assortment of posters for the use of its members. Since the last Annual Safety Congress, 756 different kinds of posters have been offered to the members, and 2,888,000 copies have actually been used. More posters have been issued that were suitable for the Delivery, Taxicab and Bus Section members than for any other individual section. This is probably attributable to the fact that most industrial concerns operate a fleet of motor vehicles, thus making them eligible for membership in the section.

The Chairman then introduced the first speaker:

Selling Safety to Drivers

By MERRILL HUTCHINSON

President, Hutchinson Advertising Agency, Minneapolis, Minn.

Mr Hutchinson spoke extemporaneously from notes, and therefore, unfortunately, no copy of his talk is available and only the substance can be reproduced here. He said: There are three important steps which must be discussed in the selling of safety, just as the same steps occur in the selling of any other commodity or service. These are, first, whom do you want to reach; second, what do you want to get him to do; and third, what means have you to get at him?

Now, although these principles are the same in any kind of selling, the selling of safety is usually left up to the transportation department or the delivery superintendent, or some other administrative officer, and the advertising department of the concern or the public relations department is left entirely out of the picture. Perhaps this is a mistake. If the advertising men of the business were called in for advice or as-

stance, they could doubtless make valuable suggestions, and I want to recommend co-operation in this respect.

It would be splendid if we were able to say that posters reduce accidents 17 per cent, safety talks 5 per cent, employees' magazines 3 per cent, and so on; but there is no way to discover what medium accomplishes the results when several are used. Therefore, we cannot answer the question: "What is the best way to sell safety?" The situation is like that of a sick man who goes to a doctor who makes him go on a certain diet, take certain exercises, get more fresh air, and take certain treatments. Neither the doctor nor the man will be able to tell which of these did the business nor how much each one contributed. It is emphatically not a matter of using this or that method, but of using this *and* that,—all together.

Let us now consider whom we want to reach with the safety message in fleets. What kind of people are these drivers? We know that their average intelligence is about 12 years. Therefore, we must not tell them anything in words or figures which a 12-year-old child would not understand perfectly. One of the great stumbling blocks in advertising safety or sausages or shoes is that the man who pays for the advertising wants the advertisement to be the kind that he would like, and fails entirely to realize that this would only be good for reaching people like himself. If the management insists on thinking that what it wants is what the other fellow also should have, the effects of the effort may be entirely lost.

Another thought in selling safety or anything else is that the thing is not undertaken like starting a chicken farm. That is, by getting a few hens and a rooster and putting them in a coop, with a yard, to produce eggs. Advertising doesn't work that way. The thing doesn't keep going by itself after it is started; it has to be pushed all the time hard or it will stop dead. This pushing must be of good quality as well as abundant in quantity. It is not enough to keep on making a noise; the noise must be an enthusiastic one. The advertising material must radiate belief in something.

With regard to the medium to be used in reaching drivers, I have already intimated that as many different approaches should be used as possible. Care must be taken, however, in using novel ideas. They are only effective when closely associated with the idea you wish to put across. For example, a dentist might use a giant tooth for a savings bank to pay for dental work, but a giant tooth would not be good for a piano company to use. If the associated idea detracts from the central one, it should be discarded. Some advertisers consider that it is necessary to have a beautiful girl to advertise things, but I cannot see where this is advantageous if the beautiful girl is not associated with the things advertised. The person to be reached is too likely to remember the girl and forget safety. In any case, however, it is necessary to use something out of the ordinary to get attention.

Position of posters or bulletins is also important. You simply can't get a human being to go out of his way to look at your advertising, no matter what it is. You must stick it right in front of them and dress it up. The billboard stuck up on a dump heap will not be nearly so successful as one put on an attractive spot.

The appeal used in your advertising of safety should challenge. I remember a splendid example from an insurance company which advertised, "Will your widow dress as well as your wife does?" That sort of thing bangs you in the eye. This is a difficult thing to do but important and worth much study. You want your reader to say "That's right" when he gets your message. It must ring a bell in him.

Finally, let me advise you to sell safety on the basis of selfishness. Let the men

you want to reach know that if they are injured in an automobile accident, that may be the end of them. Or worse still, they may be crippled for life. Let them know definitely that if they kill a child with their vehicles, they may never get over it and may be nervous driving for the rest of their lives. You must make continually clear what effects accidents will have on the man you want to reach.

Recent Technical Problems of the Engineering Committee

By W. E. SANFORD

Safety Supervisor, The United States Electric Light and Power Company,
New York City

The speaker said in part: The following subjects have been referred to the committee for action during the past year:

1. Revision of part II of the "You and Your Car" leaflet series, entitled "Mechanical Equipment." This subject apparently carries considerable interest, as it brought forth many constructive suggestions.

2. "Safe Driving." This pamphlet, designed for the use of organizations which do not feel justified in going to the expense of publishing drivers' rules, also excited wide interest and many valuable suggestions were made. The pamphlet is now available to organizations and to date some 50,000 copies have been sold.

3. "Brakes on Trailers." The proposal of Wisconsin to enact a law requiring brakes on all trailers having a gross weight of 6000 pounds or more, made it desirable to secure the opinion of organizations interested. The consensus of opinion seems to be that all loaded trailers should be controlled by the operator of the power vehicle and that depending on an attendant on the trailer or semi trailer would be extremely hazardous. It is also considered to be essential that adequate parking brakes be provided on the trailer, so arranged that the wheels may be locked when the trailer is detached from the motor vehicle.

4. "Refueling Hazards—Buses." Considerable information was furnished on the operating experience of organizations all over the country; accidents, however, have been infrequent. It is suggested that the succeeding committee follow up this question.

5. "Side Lights on Vehicles." Should some form of side lights be required on all vehicles, with a view to reducing the danger of night accidents at intersections? It is suggested that this subject also be carried on by the new committee.

Brakes and Accidents

By LIEUTENANT GEORGE ANDREWS

Vehicle Homicide Squad, New York City Police Department

The speaker said in part: In the early part of the year 1930, a conference was held by the Police Commissioner and the Chief Magistrate of the Magistrates Court, City of New York, for the purpose of formulating a squad organization to supply complete information and reports of fatal and near-fatal accidents. This squad investigates and reports on such accidents in the boroughs of Manhattan, the Bronx and Brooklyn. These squads have a personnel of three lieutenants, forty-five detectives, and cover twenty-four hours service daily. The detectives assigned to this