

# Electric Railway Journal

Published by the McGraw-Hill Publishing Company, Inc.  
Consolidation of STREET RAILWAY JOURNAL and ELECTRIC RAILWAY REVIEW

Vol. XLIX

NEW YORK, SATURDAY, MAY 5, 1917

Number 18

## RAILWAYS CAN HELP SELL NEW BONDS

One of the large public utility holding companies has empowered each of its subsidiaries to supply information to its public in regard to the new government loan and to receive and handle subscriptions for this loan without charge and without profit. This is a patriotic act and is one which many electric railway companies, especially those in the smaller communities which are without banking facilities, could do with benefit both to the government and to the people in the communities through which they run. Secretary McAdoo has announced that the details for utilizing the service of these outside agencies in securing an extended sale of these bonds are being worked out and will be made public later. Other electric railway companies which do not have the facilities for handling subscriptions could advertise the bonds in their waiting stations and on their cars. To secure this being done in the most effective way, an offer has been made to the Secretary of the Treasury in behalf of the national street-car advertising operators of free card space to advertise the bonds or for any other purpose which he may desire. Owing to the size of the first issue, \$2,000,000,000, the loan must be a popular one and this means that every facility should be offered so that subscriptions can be made easily.

## "HAVE YOU BOUGHT YOUR BOND?"

The American people are not as familiar with government loans as are the people abroad. This is partly because of the small amount of government debt outstanding, partly because in our developing country there have been many other opportunities for investment and partly because many of the earlier government loans formed the basis for the issue of banknotes and thus were held largely by the banks. Nevertheless, the conditions surrounding this loan, such as exemption from federal and state taxation, except estate and inheritance taxes, and the privilege of conversion into bonds bearing a higher rate of interest, if the government issues any such bonds during the present war, make it a very attractive one. Our cartoon on page 812 emphasizes the reason for the loan. The question which it asks is, "Have you bought your bond?" This is a question which every patron of an electric railway as well as every individual connected with an electric railway company should be able to answer affirmatively in the near future or to give a good reason for not having done so. In such cases, employing companies, whether railway or manufacturing, may offer to assist by making advances to the employee to be repaid gradually by

deductions from wages or salary payments. This practice was followed by a great many British firms in connection with the recent large British loan and appears to have been of great assistance. This war will have to be won quite as much by bank checks as by bullets, and it is the duty of all to help.

## BETTER MEDICAL RELATIONS

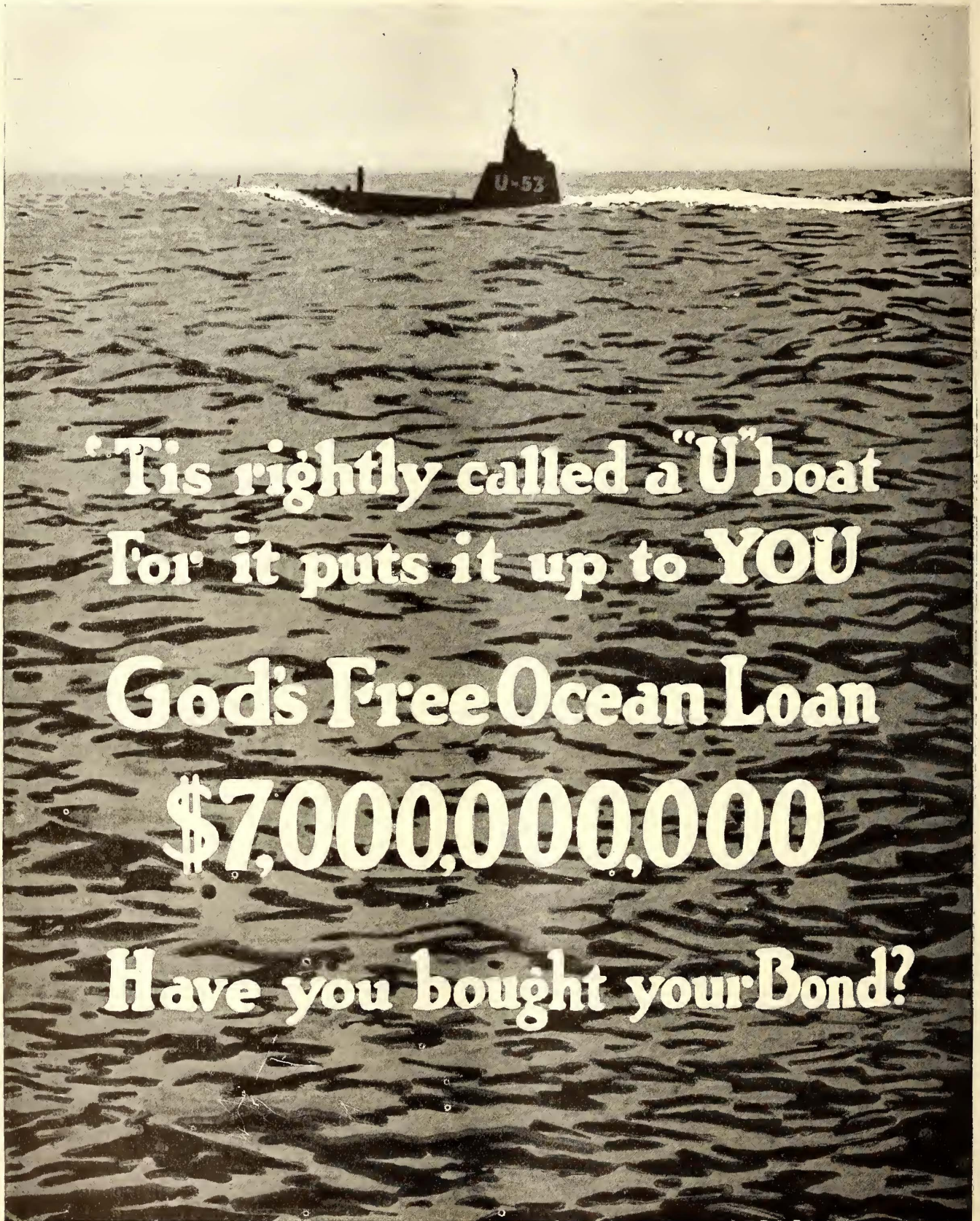
Better public relations are not created solely by newspaper advertising, by courteous office boys and attentive officials, by car posters or what not. They are the result of frankness, sincerity, truth and understanding in all phases of a corporation's life. Take, for example, the medical side of an electric railway. That does not mean much to the average citizen, but it can be made a powerful aid in improving relations with patrons and employees. This week Dr. Holtz describes in our columns what the Associated Bureaus of the Pittsburgh Railways have accomplished along this line, and the story is most inspiring. The company has a medical code as strict as that of any practitioner; it handles its medical affairs in an open and dignified manner; it co-operates with rather than antagonizes the local physicians—and the result is a valuable asset, the good-will of the entire medical profession. In the case of the employees, the work of giving direct medical and welfare aid is handled with the same enlightened thoroughness. To bring "ambrine" from the battlefields of Europe was not a great task, but what a protective interest in the employees it manifested. When the Pennsylvania compensation law went into effect in 1916, the company did not have to make any material alterations in its medical practices—the act had been anticipated by many months! These are merely incidents, but they are typical. The Associated Bureaus of the Pittsburgh Railways are building their house upon the rock of better public relations, and it will stand.

## REMEDYING THE COAL SITUATION

From nearly every section of the country comes the complaint from public utility companies that coal is as difficult to get as in mid-winter. Some electric railway companies, profiting by the experience of the last twelve months, have taken the bull by the horns and purchased their own coal mines, but obviously this is impracticable for most electric railways. It is to be hoped that the ruling just issued by the special committee on national defense of the American Railway Association to give preferred movement to shipments of coal and iron ore will help in this emergency. Beginning May 1 all railroads handling, loading and distrib-



## The Nation Needs Money



'Tis rightly called a "U" boat  
For it puts it up to YOU

God's Free Ocean Loan

\$7,000,000,000

Have you bought your Bond?

Suggestive Thoughts on This Cartoon Will Be Found in the Editorials on the Previous Page  
Entitled "Railways Can Help Sell New Bonds" and "Have You  
Bought Your Bond?"



uting gondola and hopper cars are admonished to observe this rule, and the committee will look to the president of each road personally to see that this order is not evaded or abused. This act and the proposed horizontal increase in freight rates will probably do more to improve the steam railroad freight situation than any of the many other remedies that have been proposed. So far the proposed freight rate increases have not included coal, coke and iron ore. But it is not improbable that in the early future the tariffs on these commodities will be considered for increase on the basis of so many cents per ton. The possibility of any new factor which will increase the cost of fuel for public utility use will create another cause of worry to electric railway coal users, and particularly so because, unlike manufacturers, they are not in position to pass on the cost easily to the "ultimate consumer."

**A FREAK ORDINANCE AT LOS ANGELES** Los Angeles, so wide awake on other matters, allowed the passage on April 24 of an ordinance that is a prize for the ignorance it displays of electric railway operation. Section 10-a actually says: "It shall be unlawful . . . to replace or repair the rails . . . or ties . . . or to repair, replace or reconstruct the roadbed, pavement or wearing surface . . . within said business district for any such purpose, between the hours of 7 o'clock p. m. and 6 o'clock a. m." On reading the hours, anyone who is unfamiliar with the facts would naturally assume that the printer had reversed the p. m. and a. m. designations; but, no, the ordinance has been quoted correctly. Just how an electric railway can keep up its track in the busiest part of the city during the hours when the streets are congested with cars, automobiles, wagons and pedestrians, if it is not allowed to make repairs and renewals at night is something which we must leave to the councilors and Mayor in their profound wisdom. We hope that the Los Angeles and Pacific Electric Railways will find some way of exposing such stupidity. The citizen who finds Broadway or Main Street torn up in the middle of the day will doubtless excoriate the railways instead of the Council for failing to do such work when he is fast asleep in Pasadena or some other suburb. Such undeserved misunderstandings are among the many things which make an electric railway operator's life "of few days and full of trouble."

**SAVINGS POSSIBLE IN THE COAL PILE** The heart-breaking waste of energy between the coal pile and the wheel tread has worried electric railway economists whenever they have stopped to consider it. Heretofore, it has been an individual matter with each company, but now the importance of reducing unnecessary coal consumption has become a national question. On the average probably less than 5 per cent of the original energy gets to the place where it acts to drive the car. Much of the 95 per cent loss is inevitable, but some of it can be prevented by applying the results of engineering research. Even when the energy reaches the wheel tread it is far from the goal, for still

perhaps a fifth of it is doomed to preventable waste. Furthermore, while coal is the principal element of energy production expense, the labor along the line from coal pile to wheel tread also presents elements of loss. These are difficult to evaluate in numbers, but are worthy of careful attention. In these days of enforced economy in the electric railway field it behooves us all to have firm convictions regarding the actual situation in this matter of preventable waste. The facts must somehow be brought home to the men who ultimately control the expenditure of the energy; to executives first, then to boiler and engine-room operatives, to sub-station attendants and finally to the men on the front car platforms, who are the "ultimate consumers." All of these men must be shown how they can contribute to a general saving, and their successful efforts in doing so must in some way be recognized and rewarded. They must all be made to feel that even if sensational results are not possible, a little saving here and there will contribute to a creditable whole. Incidentally the co-operative spirit which will be fostered by concerted effort in this direction will produce corresponding benefits in others.

#### ELECTRIC RAILWAY EARNINGS COMPARED

On March 31 we published figures compiled by the information bureau of the American Electric Railway Association, showing that in the calendar year 1916 electric railway revenues displayed considerable improvement over those of 1915. For 7910 miles of line the gross earnings amounted to \$207,520,000, an increase of 6.34 per cent, while the net totaled \$78,333,000, a gain of 5.78 per cent. This week we are publishing in our Financial Department additional figures from *The Commercial & Financial Chronicle*. For 294 companies the 1916 gross earnings amounted to \$582,697,750, an increase of 9.65 per cent, and the net earnings at \$219,236,230 represented a gain of 9.18 per cent. Both compilations include street, suburban and inter-urban railways. No comparison by miles of line or number of companies is available, but the greater scope of the financial journal's figures is apparent from its report of gross earnings more than two and a half times as large as the association's total.

That more satisfactory progress is indicated by the larger gross returns is encouraging, but it must be remembered that the gain made in 1916, a year of marked industrial prosperity, was large only as compared with those in the preceding two years. If we group the last three years together we find that the average annual percentage gain in gross was only 3.43 per cent, as compared with an average of 7.12 per cent for the preceding nine years, or from 1905 to 1913 inclusive. With increasing costs and taxes, with vast governmental competition for capital, the electric lines must be assured a better return in the future if they are to be able to attract new capital. The whole nickel-fare proposition needs a fundamental readjustment to modern conditions. Conditions are not improving, and the more quickly this change is made, the better.



## A Resolution of the American Electric Railway Association

Passed April 30, 1917

"WHEREAS, the President in a proclamation to the people of the United States, has urged the conservation of all resources and the devotion of all energies to the sole purposes of bringing victory to the arms of the Nation in the war upon which it has so justly entered, and

"WHEREAS, to the managers and operatives of the transportation systems of the country, the President addressed the following particular admonition:

*To the men who run the railways of the country, whether they are managers or operative employees, let me say that the railways are the arteries of the Nation's life and upon them rests the immense responsibility of seeing to it that those arteries suffer no obstruction of any kind, no inefficiency, or slackened power; and*

"WHEREAS, this Association at its Midyear Conference pledged to the President, as the representative of the country, 'its patriotic support of all measures which you may take in upholding the dignity and honor of our country and the rights, property and persons, of its citizens on land and sea,' and

"WHEREAS, the efforts and energies of all electric railway officers, should in these times of stress be devoted to preparation of their systems for the added demands, both military and industrial, which may be made upon them and

"WHEREAS, the resources of the Manufacturer Members of the Association are at any time liable to call from the Government in the furtherance of its military plans, and the preparation of the customary convention exhibit entails an expenditure of time and money, which may well be devoted to objects more directly concerned with the public need, be it

"RESOLVED, by the Executive Committee of the American Electric Railway Association that the Convention and Exhibit of the Association, in its usual form, be abandoned for the year 1917 and that the Committee communicate to the Member Companies at a later date, the call for such meeting as may at the time seem proper to substitute, and be it further

"RESOLVED, that the Executive Committee in behalf of the Association, pledges anew its patriotic support to the Nation, and accepts in behalf of its Member Companies the trust imposed upon the Transportation agencies of the country, by the President, in so far as it applies to electric railways."

## Approve Plan of No Convention

AFTER the committee appointed to consider the plan of a convention this year had made the report published in the adjoining column, requests were sent to seven prominent members of the association for their individual views. These replies appear below:

### CO-OPERATION WITH GOVERNMENT ALL-IMPORTANT

The present national crisis presents so many unusual problems, both local and national, that the association can more than ever justify its existence by aiding all its members in doing big things, and, also through active co-operation with the National Council of Defense, it can be of great value to our Government. To accomplish the best results it is necessary that each and all of us limit our activities to the consideration of the problems arising out of the present crisis.

*New Haven, Conn., April 30.*

L. S. STORRS.

\* \* \*

### BEST EXHIBIT THIS YEAR INCREASED EFFICIENCY

The abandonment of the convention and exhibit of the association in its usual form is in line with our pledge of support to the nation and will have the indorsement of all our membership. We can, as an association, put on our greatest exhibit this year by working together for increased efficiency in our business.

*Cleveland, Ohio, May 1.*

JOHN J. STANLEY.

\* \* \*

### HIGHLY PROPER UNDER EXISTING CIRCUMSTANCES

The abandonment of the annual convention of the American Electric Railway Association is highly proper under existing conditions. We can all serve our country, the public and our companies better by devoting our energies along other than convention lines. The recommendation should be approved.

*New York, April 30.*

J. H. PARDEE.

\* \* \*

### LARGE CONVENTION INCONSISTENT WITH PRESENT PURPOSES

Conservation of food, fuel and labor are of pressing importance. Greater production was never more urgently needed. The members of the American Electric Railway Association should direct every effort toward giving our nation all possible assistance, and conserving the time of their officials and employees for the urgent requirements of our participation in the World War. The usual large convention would be inconsistent with our present purposes.

*New York, May 1.*

J. D. MORTIMER.

\* \* \*

### ACTION TAKEN WAS MOST WISE

The executive committee of the American Electric Railway Association has acted most wisely in determining to forego a convention this fall. The state of war with which this country is now confronted requires that public utility men "do their bit" in preparing this country for the strife that will test its men and resources to the limit. In addition to the regular duties, there is a real work for the public utility men along this line.

*Syracuse, N. Y., May 1.*

C. LOOMIS ALLEN,

\* \* \*

### MANUFACTURERS SHOULD CO-OPERATE WITH RAILWAYS

I heartily approve the proposed plan to abandon this year holding of the A. E. R. A. convention. The national situation is such as to make it imperative for everyone to remain at his post of duty, and make preparations to handle adequately the transportation of men and supplies that will devolve upon the electric railway companies. The network of electric railway lines in this country will prove a valuable asset to the government and a strong arm of the military service. Therefore, it is essential that railway officials bend every effort toward perfecting their organizations to meet the emergency. The manufacturers can also lend valuable assistance to the industry by making plans to insure maximum production in order to furnish the railways with material when it is required to keep the equipment in operation, thereby doing their bit toward achieving the victory that must be ours. I earnestly urge the manufacturers to co-operate with the electric railways to the end that our industry may develop its maximum efficiency as a military aid.

*San Francisco, May 2.*

THOMAS FINIGAN.

\* \* \*

### PLAN SHOULD RECEIVE SUPPORT OF MANUFACTURING MEMBERS

It is eminently proper to omit the convention this year, and I want to register my strong indorsement of the action taken by the executive committee. Everyone must realize the urgent necessity of giving all support to any agency that can be of such inestimable value to our government at this time as the electric railways will be. For this reason I am convinced that the abandonment of the convention will not adversely affect the membership of the association to any appreciable extent among the manufacturing members.

*New York, May 1.*

B. A. HEGEMAN, JR.



**"FIND A WAY OR MAKE ONE"**

Reference has already been made in these columns to a talk which was delivered recently before the employees of the Public Service Railway by Martin Schreiber on the subject of essentials for personal progress. Several hundred men listened to this talk with great interest, and even a casual observer could note that the words of the speaker aroused a responsive chord in the minds of his auditors. After all there is no more absorbing and profitable line of thought for anyone, in however unimportant a position, than that which directs him to greater opportunity and greater recognition. Starting from correct premises this line of thought will always lead to the conclusion that promotion is reasonably sure to the man who, while doing well the task on which he is at the moment engaged, is fitting himself for one a little higher up, and that nothing demonstrates better a man's fitness for promotion than his ability to get results under unusual and unexpected conditions. In the address referred to, the speaker cited, as examples of his main contention, cases of a dozen prominent officials of the local property whose careers showed consistent progress upward from comparatively irresponsible service. Undoubtedly every electric railway could furnish an impressive number of similar examples.

In studying the biographies of such men it cannot but be clear that their success has been due not so much to favoring fortune as to intelligent persistence in the face of difficulty. "Find a Way or Make One" is a fit slogan for the office boy who hopes some day to be president of the company, as well as for him who has already reached that high office.

**WHAT MAY THE RAILWAYS EXPECT?**

Now that an army of suitable strength has been assured to the country through the passage of the conscription law, it is pertinent to consider what effect the consequent withdrawal of a couple of million men from productive employment is going to have upon the electric railway industry. At least an approximate answer is to be found in the experiences of the Canadian railways, which have been going through this kind of economic readjustment for nearly three years and have most of their operating features in common with the electric railways of the United States. An outline of the conditions in Canada appears upon another page of this issue, and from this it is evident that no fear of a great disturbance need be felt by the railways on this side of the border.

Canada has raised an army that includes very nearly 6 per cent of the total population, and this figure is three times that generally mentioned as required from this country, so that on the face of it the disturbance here should be only one-third as great as it has been in the Dominion. As a matter of fact, many of the effects of the war have already been discounted here. Principal among them are the major part of the increases in wages, in living costs and in costs of materials which have been registered in Canada since the war began in 1914. As for the withdrawals of em-

ployees that are taken into the army, the Canadian railways' average loss was about 20 per cent and in this country the proportionately smaller army should reduce this figure to the order of only 7 per cent. What our electric railways face, therefore, is not a great disturbance, but rather a period wherein every source of economy must be exploited.

**NO BIG CONVENTION FOR 1917**

The action of the executive committee of the American Electric Railway Association in deciding not to hold a convention of the usual type cannot but commend itself to every interested patriot. Much as the omitted features of the convention will be missed it is far better to omit them than to raise any question of fitness or propriety. The best energies of the industry are needed on the job at home, especially during these days of uncertainty and anticipation. In addition the transportation facilities of the country will be taxed even further than ever next fall, if that is possible, in handling food, fuels, war supplies and other raw and manufactured products for our allies and ourselves. While in the aggregate the cost of a convention is a very small proportion of the country's annual expenses yet it is something, and the very fact that the railway men are willing to forego their convention will serve as an evidence of loyalty to their government.

Furthermore a convention, however desirable, is not essential to the prosperity of the railway industry. While it affords a splendid opportunity for the study of exhibits showing the latest products of the manufacturers, and for conference on operating and other problems, there are other although less efficient ways of accomplishing these things.

It is true that in the past the chief functions of the manufacturers at the convention have been to prepare the great annual exhibit and to assist in the entertainment of the delegates, and therefore the omission of these features will leave them with little to do this year. It is further true that since their admission to the association as company members in 1915 their status has not been defined so far as actual work is concerned. It must be remembered, however, that the problem of defining this status is a difficult one, and that a representative committee is diligently at work on its solution. We believe, therefore, that the manufacturers will stand loyally with the other members of the association in spite of the fact that their convention activities will be comparatively nil this year. The industry—operators and manufacturers—is behind the President to a company and to a man. Through the association they can most powerfully make their influence effective.

There is no lack of evidence that the electric railway men as a class are pre-eminently patriotic. The notes which are being printed in these columns from week to week reflect this patriotism. The decision to abandon the convention still further reflects it. Never was there such an opportunity to convince the country of our solidarity, and of our desire to "do our bit" in the service of that country, than is presented to us now.



# Best Medical Attention Pays

How the Pittsburgh Railways and Affiliated Companies Have Built Up Cordial Relations with Local Physicians—How the Companies Care for Injured Employees and Promote Their Welfare

By W. M. HOLTZ, M. D.

Chief of Medical Bureau Pittsburgh (Pa.) Railways

THE medical and welfare bureaus of the Pittsburgh Railways, Duquesne Light Company, Beaver Valley Traction Company and Beaver County Light Company are part of the organization of the Associated Bureaus of these companies, all under the direction of Cecil G. Rice, assistant to the president. Their present activities are the outgrowth of eight years of careful planning by Mr. Rice. The chief of each bureau is responsible for the successful termination of specialized duties, backed by clear-cut policies and generous encouragement in any direction tending to promote greater efficiency. They receive from and give to the several other bureaus the utmost of functionally co-operative assistance.

## MEDICAL STAFF ORGANIZATION

All matters involving the medical profession and hospitals are handled through the medical bureau. The all-time staff of this bureau consists of a chief and two medical associates, a secretary-nurse and one clerk. There are, in addition, a corps of fifteen assistant physicians and surgeons, known as "welfare doctors"—not company doctors in any sense of the word—who are chosen on a basis of ability, experience and proximity to terminals and shops.

These welfare doctors are located at convenient points throughout the system of the various companies in three large and populous counties. To these medical men are assigned any unusual emergency, or the care of injured employees who may be unable to present themselves at the medical bureau's central office. These doctors receive no stipulated fee per month, but are paid for the professional services actually performed, at a rate sufficient to make the company's work attractive to them.

## BUILDING UP CORDIAL RELATIONS WITH PHYSICIANS

One of the most important functions of the medical bureau is the upbuilding and preservation of cordial relations between the companies and about 3000 physicians and a dozen hospitals, with whom the business arising out of accidental occurrences on or about the companies' properties bring the medical bureau in contact. Strict adherence to the unique *Code of Ethics and Policies*\* of the Associated Bureaus has brought the maximum of good along these lines.

The medical affairs of the companies are administered in a dignified, fair and honest manner, which is recognized and credited by those who in past years were in-

clined to criticise. The full measure of what this means may be judged by considering that in every accident involving the traveling public and an electric transportation company there are from one to four or five physicians directly or indirectly concerned. Their influence to secure justice is well worth cultivating, in the opinion of the management, and it is believed that in the district served by the Pittsburgh Railways and its affiliated companies a wonderful asset has been established in this way.

## RESULTS SPEAK FOR THEMSELVES

"The medical affairs of the Pittsburgh Railways and its affiliated companies are administered in a dignified, fair and honest manner which is recognized and credited by those who in past years were inclined to criticise. The full measure of what this means may be judged by considering that in every accident involving the traveling public and an electric transportation company there are from one to four or five physicians directly or indirectly concerned. Their influence to secure justice is well worth cultivating, and it is believed that in the district served by these companies a wonderful asset has been established in this way."—Dr. Holtz.

## THE COMPANY'S MEDICAL CODE

The *Code of Ethics and Policies*, under which all the bureaus operate, has long since received the stamp of approval by representative men in nearly every field of endeavor. The part covering relations with the medical profession is abstracted as follows:

"The high ethical standard adopted by the members of the medical profession, as well as the relations had by these Associated Bureaus with the large majority of those members, justify the assumption that the relations of the physician to his patient will remain solely professional in all cases resulting from injury in connection with the agents or properties of these companies. It is not expected that, under any circumstances, the physician will

confuse his professional relations with the function of an adjuster of claims.

"These Associated Bureaus desire of the physician only that he shall report fully the extent of an injury; that he shall secure to the patient the promptest and most effective recovery possible; and that if he feels justified from his knowledge of the policies and principles which guide these Associated Bureaus, he shall make a suggestion to the patient that these Associated Bureaus do deal fairly and openly, and that the patient's interests will be best served by dealing direct, as in any other business matter, rather than by incurring the unnecessary expense of unavailing aid of others.

"It is held further that the principles and practices of these Associated Bureaus in relation to claims for injury are consistent with the highest business and professional ethics; and that such admonition from the physician to his patient as is bespoken herein cannot be derogatory to the interests of the patient or to those of his physician; but, on the contrary, if sincerely adhered to, must redound to the interest of all concerned.

"It would appear that a physician administering for the results of accidental injury, and particularly when received under the circumstances contemplated herein,

\*Described in the ELECTRIC RAILWAY JOURNAL of Oct. 7, 1916, page 712.—Eds.



may exercise frequently an influence upon the mind of the patient which will tend toward undelayed restoration to normal mental and physical health. Due regard for the high principles of honor and fairness, as well as for the ultimate physical welfare of the patient, is held to assure that there will be accorded the most beneficent mental, surgical or therapeutic treatment available."

#### PHYSICIANS APPRECIATE COMPANY POLICY

The same policy of "absolute fairness, maximum accuracy and persistent courtesy" that pervades all the other bureaus of this organization are applied to the medical problems of the companies. For example, about seven years ago the so-called "company doctors" were abolished, free transportation for many such physicians was done away with, and as far as possible no favoritism was shown in the question of patronage. This immediately raised the companies' standing in the estimation of those medical men who theretofore had considered themselves discriminated against. Within a very short time the railway company was receiving prompt and usually satisfactory reports as to the nature and extent of injury of passengers meeting with accidents. The spirit of co-operation shown by the doctors generally in securing examination appointments for the companies' special examiners was most pleasing and has long since proved the wisdom of the changed policy.

Reasonable fees are paid to physicians for emergency or first-attention services following an accident, provided a detailed report on forms furnished by the company for that purpose is mailed promptly. If during subsequent weeks the attending physician exhibits his fairness by giving information as to the progress of the injuries, and his bill for subsequent treatment is at all reasonable, his interests at the time of settlement direct with the injured person are protected to the extent of withholding that amount from the settlement. The company concerned then sends the doctor a voucher for the amount of his bill, which often he could not collect otherwise. This courtesy is much appreciated by the medical profession at large within the scope of the companies' patronage.

The medical bureau does not undertake the treatment of injured passengers except in emergency, but keeps in close touch with the attending physician in each case, arranging special examinations as may be warranted by the circumstances. In litigated cases medical defenses are prepared in collaboration with the trial attorneys, but seldom does any of the medical bureau staff appear in court.

These companies employ about 10,000 men. The hazards of their occupation are no less than in similar industrial fields, and in some branches, particularly the lighting and power business, the hazards are greater. The companies have long maintained toward their employees a policy of providing the best surgical, medical or hospital attention for the men hurt while on duty.

Consequently the operation of the Pennsylvania workmen's compensation law, dating from Jan. 1, 1916, did not materially alter these medical matters.

In fact, the act itself had been anticipated, so that many months in advance of the Compensation Board's ruling on "reasonable" medical attention, particularly "first-aid" service, and "reasonable" surgical equipment by the employer, these companies were unusually well prepared to take over what added burden the compensation law may have brought about. The equipment of the medical bureau's central surgical section, which is located in commodious, well-lighted and well-ventilated quarters, is second to none in the country serving property of equal size and such varied demands. Part of the surgical section is shown in the accompanying illustration. This section, with the suite of offices connecting the medical bureau, has been most favorably commented upon by officials of other companies, labor union officials and visiting physicians.

#### ALWAYS LOOKING FOR THE BEST

As illustrative of the companies' generous attitude toward injured employees and the desire to provide the

best approved surgical attention, there may be cited the importation and use of "Ambrine"—a paraffine treatment for burns. This substance, which has been popularized by French surgeons in the European war, was secured as soon as its merits had been attested. Its use has left nothing to be desired in the matter of relieving pain from burns and shortening the period of disability.

Of even greater importance to injured workmen is the adoption of the Carrel-Dakin antiseptic solution for the con-

trol of severe infections. In this connection the medical bureau expects soon to adapt a modification of this treatment to ambulatory cases. All of the companies' severe injuries are subjected to this method of treatment in a hospital.

#### CARING FOR TRIVIAL INJURIES

The subject of infections and resulting disabilities, deformities and even death from apparently trivial injuries, while not new, is receiving the closest study, and an earnest effort is being made to minimize this preventable loss of time and needless suffering. Compulsory medical inspection has not been attempted. Rather a personal appeal to the employees, coupled with emphasis on the tragic illustrations of their fellow employees' unfortunate occurrences, and simple first-aid instructions are being tried.

The men are urged to report any accident to themselves or others, no matter how insignificant the injury may seem to them—particularly any break of the skin or an eye injury. The necessity of immediate application of tincture of iodine to the broken skin is impressed upon the men. Where this simple first aid can be relied upon and the injury is not disabling, a suitable pro-



PART OF SURGICAL SECTION OF PITTSBURGH RAILWAYS MEDICAL BUREAU



tective dressing is used. The injured man's foreman is then held responsible for having the man consult a doctor as quickly as possible within twenty-four hours.

#### INSTRUCTIVE BOOKLETS FOR EMPLOYEES

About a year ago booklets, setting forth the salient points of the compensation law, were distributed to every employee. These booklets also carried safety suggestions and invitations to the employees to consult the chiefs of the medical or welfare bureaus upon any medical matters or questions arising out of their accidents. There was also in each booklet a folder on which were designated the welfare doctors, their addresses and telephone numbers, and the location and telephone numbers of the hospitals nearest to any particular terminal, power station or large shop.

On these folders are the following instructions for action in case of injury to employees:

*First*—Send injured employee to medical bureau, surgical section, Room 510, fifth floor, No. 435 Sixth Avenue, if the injury, his appearance and condition would not make the trip objectionable or

*Second*—Send injured employee to nearest hospital.

*Third*—Send injured employee to or call nearest welfare doctor.

*Fourth*—Telephone medical bureau and report only nature and extent of injury sustained and action taken, or for advice if undecided what to do.

*Fifth*—Make out and forward "Report of Injury to Employee" to welfare bureau, Room 522, fifth floor, 435 Sixth Avenue.

It has been found that observance of the fourth instruction serves to check up the accident reports which otherwise would be delayed or not made. The foremen are told that their responsibility ceases when they report an accident, no matter how trivial. From the receipt of the report the responsibility for following up and making sure that the injured employee receives proper attention is assumed by the welfare bureau.

More detailed explanation of the foregoing instructions are prominently set forth in the booklets, as follows:

If the injured employee is unable by reason of the nature and extent of the injury, appearance or condition, to go to the medical bureau, he should be taken or sent to the nearest hospital or the ambulance of the hospital called. Serious injuries such as broken bones, fractured skull, deep and extensive burns, or severe and extensive lacerations, can best be treated at a hospital. Hospital accommodations are arranged for dressing wounds as well as where the injury is of such nature as to require nursing and confinement.

If for any sufficient reason instructions No. 1 and No. 2 cannot be carried out, the injured employee should be sent to the nearest welfare doctor, first telephoning to make certain the doctor will be in his office. If the injured employee is not in condition to go to the welfare doctor's office, have the doctor come to the injured man.

If the nature of the accident is such as to make instructions No. 1, No. 2 and No. 3 impracticable, or if the emergency is such as to make necessary the calling of a doctor nearer the location of the accident, such action may be taken. In such instance, however, the doctor so called must be specifically informed that his services are requested for the emergency or first attention only and that he will not be expected to render further service unless so instructed by the medical bureau.

These arrangements are considered liberal and will be so interpreted by those in direction of the work. They are not intended to prevent any action in extraordinary cases which would be for the employee's best interests and comfort.

#### THE WORK OF THE WELFARE BUREAU

In treating injured employees, teaching them the fundamental facts of first aid to the injured and advising them from time to time in health matters, the work of the medical bureau touches in close co-operation with the welfare bureau. The duties of J. L. Roche, chief of the welfare bureau, bring him into the same personal contact with employees that characterizes the surgical

attention following accidents, and both forces have unusual opportunities to assist in the constant campaign in behalf of safety and the prevention of accidents.

Mr. Roche personally makes the compensation payments to the men, visiting them at their homes or in the hospitals, or receiving them at his office. Frequently these payments are for more than actual compensation under the law, including, in addition, such welfare payments for entire loss of time, extra expenses and other items as may be properly recommended by the employee's superintendent or general manager. In fatalities the welfare bureau often makes immediate payment of money for the emergency, the formal approval for which is always forthcoming later. The official receipt that is executed for a disbursement shows definitely—as pointed out to the employee—just what amount is paid under legal requirement, how much extra is paid as welfare allowance and at whose request the latter payment is made. This serves to remind the employee that his employing supervisor considers length of service, general merit and loyal conduct, or the reverse if for enforcing discipline no recommendation is made.

#### BRINGING THE WELFARE BUREAU AND THE INJURED EMPLOYEE TOGETHER

By requiring the injured employee to present himself whenever possible at the offices of the medical bureau, there is a decided saving of time and expense and the maximum of benefit to the employee. The requirements of the Compensation Board as to detailed information regarding accidents and machinery involved therein makes an interview with the chief of the welfare bureau or one of his assistants quite necessary. In no other way can the desired facts be secured satisfactorily. It is manifestly much cheaper to have the injured employee, with his hurts properly attended, step into an adjacent office and furnish the required information about his accident than to later send a representative of the welfare bureau to him for that information. The injured man is thus placed in touch with the bureau, with which he may have prolonged dealings.

In addition to these considerations the employee receives the benefit of the best surgical equipment and attention which specially suits the needs of his case with better results than might otherwise be obtained. It is believed that a greater degree of success in handling accidents to employees and a more reasonable attitude toward the employer can be secured by thus injecting the personal tone into what frequently are economic catastrophes to the breadwinner. So successfully have the foregoing policies worked out that for more than a year's operation of the compensation law not one petition was filed with the compensation referee in the local district, and as far as is known no complaint was made about the medical attention furnished.

Statistics of these companies in accident cases involving their employees show conclusively that the cost of accidents may be materially decreased by systematic central safety organizations, working jointly and co-ordinately with first-class medical supervision. No longer is there any doubt in this matter, as viewed by the most successful executives of big industries. Hand in hand with this idea is that of the employer having accurate appraisal of the physical condition of his employees, not only at the time of application for employment, but at stated intervals, to the end that the human investment may be conserved for mutual good. Misfits and rejections there always will be, but as the spirit of humanity becomes more established the modern conception of fitting the job to the man will supersede old methods. Experience has shown that the wasteful turnover of labor can be cut down to a small percentage.



# Southwestern Association Meets at Dallas

At Its Sessions the Railway Section Discussed Papers on the Subjects of Power Stations, Track, Car, Car Shops, Automobile Competition and Other Present-Day Problems

THE annual convention of the Southwestern Electric & Gas Association, held at Dallas April 26 to 28, was attended by about 300 people. Several entertainments and a Jovian rejuvenation interspersed the business sessions, while the regular papers attracted lively interest and were followed by frequent discussion.

At the opening meeting F. R. Slater, president of the association and general manager Texas Power & Light Company, spoke of the need of efficiency and intelligent thought in utility management, now more important than ever before because of the war crisis and the probability that a portion of the employees would be called away for military service. The education of the public as to its rights and those of the public utility he considered to be of the greatest importance to the association members for, as has been said, all business is based on confidence.

## FIRST RAILWAY SESSION

In the afternoon the electric railway section voiced an optimism as to the future and a confidence of the ability of the railway companies to solve the present-day problems. G. H. Clifford, Northern Texas Traction Company, Fort Worth, was chairman of this section. Four papers were read and discussed by a large part of the members attending.

"Betterment of Central Station Management," by C. R. Roberts, betterment engineer Stone & Webster Engineering Corporation, Fort Worth, was the first paper in this session. In response to some questions the speaker said that as a part of this betterment his company had installed a CO<sub>2</sub> recorder on each boiler and that form blanks, showing when boiler cleaning was necessary, were made out and signed by the cleaner and the chief engineer at each scheduled cleaning. An abstract of the paper by Mr. Roberts is published elsewhere in this issue.

"The Maintenance of Way Department To-day" was the title of the next paper. It was read by B. R. Brown, superintendent maintenance of way, Dallas Electric Company, and brought on a discussion of joint welding and track grinding. An abstract was published last week. W. B. Tuttle, vice-president San Antonio Traction Company, said that in its track work the company had found the Goldschmidt thermit insert weld very satisfactory, and the joints are hard to find afterward. There is no trouble with cupping, and most of the later rail breaks come in other portions of the rail. The reciprocating track grinder handles corrugations very effectively, but owing to the cost of this method the San Antonio company is at present trying out a rotating grinder.

The use of the electric welder was recommended by several others on smaller roads, in spite of its first cost, because of the saving it would effect in the end, due to reclamation work and the postponement of reconstruction.

Theodore Taylor, master mechanic Northern Texas Traction Company, then gave "A Few Thoughts on Car Shop Practice." Adding to this, Mr. Brown remarked that all inspection on the Dallas railways was

made on a mileage basis, the period being every 500 miles, or about every third day. This eliminated the usual troubles about as soon as they started. The last paper was "The Influence of the Automobile on the Interurban," by James P. Griffin, general passenger agent Texas Electric Railway. Abstracts of both appear on later pages in this issue.

At the close of the afternoon session it was announced that the "King of the Rails" films, showing construction details of the G. E. electric locomotives of the St. Paul Railway were run twice a day during the convention at one of the Dallas theaters. A buffet dance, complimentary to the visiting ladies, the members, and guests, was given by the Suppliers Section of the association in the Palm Garden of the Adolphus Hotel that evening.

## SECOND RAILWAY SESSION

The session on Friday morning was opened by a paper by V. W. Berry, general superintendent Northern Texas Traction Company, on "Vital Present-Day Problems of the Street Railway Operator." This paper was printed in abstract last week. In the discussion it was the general opinion that while the use of automobiles in the country often brought passengers to the line, in the city each new machine on the streets was a loss to the company, largely because of the practice of automobile owners to pick up friends and carry them to and from town. Mr. Clifford and Mr. Tuttle estimated the loss in revenue to their companies from a new automobile on the street to be \$40 per year and 15 cents per day respectively.

To meet the present-day demand for speed and better service, light cars capable of quick acceleration and deceleration, and traveling on a schedule of more frequent headway were urged. W. A. Sullivan, manager Shreveport (La.) Railway, cited as an example of the effectiveness of this the experience on a certain 7½-mile branch of his company. On this branch in 1915 the company operated nine cars and carried a large volume of traffic. When the jitneys came along it was hard hit. Eventually the company put on thirteen cars and speeded up the schedule and now has a larger business on this line than in 1915.

The telephone dispatching system of the San Antonio Traction Company and the flexibility which it gives the system were explained by G. W. Merritt, chief dispatcher for the company. The motormen report by telephone at the end of each run and the traffic inspectors from downtown line intersections. The whole system is owned and maintained entirely for their use by the Southwestern Telephone Company, at a cost of \$135 per month.

## BUSINESS SESSION

On Saturday afternoon, after the light and power session, the nominating committee made its report and the association unanimously elected the following officers for the ensuing year:

President, H. C. Morris, general manager Dallas Gas Company; first vice-president, D. A. Hegarty, president Texas Gas & Electric Company, Houston, Tex.; second vice-president, W. A. Sullivan, manager Shreveport (La.) Railway; chairman executive committee, F. R.



Slater, general manager Texas Power & Light Company, Dallas.

Galveston expressed its desire to see the convention return to it next year but the location of the coming meeting was not determined.

## The Influence of the Automobile on the Interurban\*

The Author Analyzes the Effect of Automobiles Both in Increasing and in Decreasing Traffic

BY JAMES P. GRIFFIN

General Passenger Agent, Texas Electric Railway, Dallas, Tex.

**T**HE automobile is both increasing and decreasing interurban receipts. It is both building up and tearing down, adding to and taking away.

In support of the statement that the automobile is increasing interurban receipts, I offer two propositions. First, the privately owned automobile is bringing people from off-line points to the cities and towns on the interurban for the purpose of using the interurban in completing a trip to some other point, generally at quite a distance. In order to secure any great benefit from such condition it seems to be necessary that the interurban line be of some length. Second, the automobiles operated for hire between country villages and settlements and the larger centers of population on the interurban lines, what we might term "interurban jitneys," are bringing to the interurban many patrons. In our section of the country there are a number of these "interurban jitney" routes, the cars operating on schedules timed to make connection with our cars.

The fact that the automobile is decreasing interurban receipts is easily established. Man is a social being, and seeks the company of his kind. When starting on an automobile trip, it seems that his first thought is for some one to accompany him. Our agents tell me that time and time again automobiles passing their stations stop and call from their waiting rooms people who are there awaiting the coming of an interurban car. This happens not merely in one place, but in many. It is the most common of all reports given by agents. It is more noticeable in the smaller towns, where everyone seems to know everyone else.

This is eating into the short-haul travel of the interurban. The long-haul is not being so much affected, yet on the occasion of the recent visit of ex-President Taft to Dallas I found here people living in Hillsboro, 66 miles distant, who had made the trip by automobile.

We sell round-trip tickets, and receive a number of requests for refund on the unused portions thereof. The most common of all reasons given for not using the ticket is "made the trip in an automobile." During the month of March, 1917, we handled a total of 437 refund claims, 156 being made by people who either made the going or returning trip, or both, by automobile, this being 35 per cent of the total number of all claims. This shows a direct loss of revenue.

Many traveling men representing local wholesale grocery and drug houses, etc., have purchased automobiles, which they are using in making their territory. Formerly these men made a number of their trips via the interurban. Now not only is practically all of their patronage lost to the interurban, but they also carry from town to town people who otherwise might have made the trip via the interurban.

Not only are passenger receipts reduced, but also express receipts. Automobile trucks, specially designed

for freighting, are operating out of some of the larger cities, and in direct competition with interurban express. These trucks being heavy, of necessity, require good roads.

In striking the balance, giving credit for the increase, and charging for the decrease, it is readily apparent that the automobile is causing a distinct loss of revenue to the interurban lines.

How long will this condition exist? How long will people continue to spend money for gasoline, oil, tires, repairs, etc., to make an automobile trip, which all in all costs more than if the trip were made by interurban? Grant you, of course, that the man in the automobile can start when he wants to, and return when his inclination directs, and has his car available for any running around he may care to do. Still the interurban schedules are fast and convenient. Gasoline is now 22 cents, and going up. Materials are increasing in cost, automobile concerns are raising the prices of their cars, tires cost more, etc. How long will it be before the car owner will sit down and seriously figure the cost to him of the trip in his automobile? When you get him to doing this, then you are beginning to win your battle.

How can this decrease in receipts be offset? As I see it, the interurban man should exert himself more and more to make his service more comfortable and attractive. Exert more efforts to please every patron. Dig into the surrounding territory more and more for increased business. Work to get competing lines to bring passengers to you. Work in the outlying districts to get the people to come to certain points in their cars and continue the trip via interurban from there. These are some of the many ways to increase business, and efforts spent thereon should bear much fruit.

## Betterment of Power Plant Management\*

Coal Analysis to Determine Chemical Content and Inter-Departmental Co-operation Will Effect Considerable Reduction in Operating Cost

BY C. R. ROBERTS

Betterment Engineer Stone & Webster Engineering Corporation, Fort Worth, Tex.

**T**HE power plant requires a generous portion of the total investment in equipment of an electric power company, and its operation consumes a large part of the total running expenses. As the demand for more frequent service and competition in traffic handling has led to improved equipment and improved transportation methods, so has the increased cost of fuel and other materials led to improved equipment and improved operation of the generating station. When one realizes that three-fourths to four-fifths of the total operating expense of the station is expended for fuel, the seriousness of the fuel situation as it to-day confronts the street railway and electric lighting properties is apparent. This part of the operating expense will increase in direct proportion to the increased cost of fuel unless some decided improvement in operating economy is effected.

### FUEL SUPPLY

The most common two fuels are coal and oil. The property which is located within economical reach of oil is extremely fortunate, as nature has produced in oil a fuel much less troublesome than coal. The fortunate

\*Abstract of a paper presented at the thirteenth annual convention of the Southwestern Electrical and Gas Association, at Dallas, Tex., April 26-28, 1917.

\*Abstract of a paper presented at the thirteenth annual convention of the Southwestern Electrical and Gas Association at Dallas, Tex., April 26-28, 1917.



ones may, however, be informed at any time by the oil companies that distillate can be successfully refined into a product more profitable than fuel. The price of coal in the Southwest and West will then depend upon the generosity of the mine operators and railroads in those sections.

One of the most important steps to be taken in improving station economy is the proper selection of fuel. Although bituminous coals look as much alike as a team of Kansas mules, there is, without proper handling, a decided difference in pulling power in both cases. In selecting coal the supply and transportation facilities should be investigated to insure a continual supply sufficient for operating requirements and for the accumulation of a surplus for emergency. To insure even quality the coal should be sampled as it comes through the mine tipples in cars. Then the chemical analysis will include an average amount of faults in the vein. The analyses made by the U. S. Geological Survey are not suitable for use in this work as they show only the quality of the pure vein of coal. Consequently the calorific values shown by them are considerably higher than the coal as received at the station would have. The coal to be selected should be the one that shows the greatest calorific value, taking into account its price and the equipment necessary for consuming it. A contract should then be entered into, the essence of which should be a continual supply of fuel at the standard calorific value, the contract price to vary in accordance with the calorific value above or below the specified standard. A very accurate average sample can be obtained by means of any improved type of automatic sampling machine located in the path of the coal entering the station bunkers.

#### CO-OPERATION IS THE BASIS OF BETTERMENT WORK

To improve operation conditions, it is first necessary to gain the confidence and co-operation of the chief engineer and his operating force. This can only be done by convincing them that the work to be undertaken is not a criticism of their methods or a reflection upon their ability. The greatest and most lasting results that are obtained through betterment work are those prompted by a free and unbiased exchange of ideas. When every operating man learns that he can freely express himself, whether he be coal passer or chief engineer, then the co-operation of all is definitely established and economies are sure to follow. In order to produce lasting results complete betterment work cannot be satisfactorily accomplished in less than six months.

The most important factors in station management are operation, maintenance of equipment and organization. In order to improve the economy in operation, the following work is usually necessary: Training of firemen; training in the economical handling of boiler feed water; scheduling of boiler operation, of boiler cleaning and operation of engine-room equipment; training of engineers; introduction of a proper operating log, and establishing of a proper system of accounting.

#### IMPROVING OPERATING CONDITIONS IN THE BOILER ROOM

After the proper design of furnace has been determined, the fireman should be trained in the economical combustion of the particular fuel selected. The boiler room should be equipped with instruments which he should be trained to use intelligently as a guide. Some of the most essential are an automatic or manual CO<sub>2</sub> recorder, and thermometers for feed water, steam and stack temperatures. Indicating thermometers and draft gages should be installed where additional operating data are necessary. These instruments should all be

observed and readings recorded at least every half hour, and the CO<sub>2</sub> and draft readings should be observed continuously. The individual watches should be kept separately and the results posted in the boiler room for comparison by those on each particular watch. This promotes friendly rivalry between the operators and appeals to the pride of each, which has a tendency to produce even a higher standard of operation.

The firemen should be trained in the economical use of boiler feed water, maintaining at all times a maximum temperature and utilizing a minimum amount of exhaust steam. The manner in which each man handles this feature of operation is clearly shown on the recording thermometer chart connected to the feed-water system. Tests should be run to determine the most efficient load to be carried on boilers.

A boiler-room operating schedule which will call for the proper number of boilers to be operated by any given load should be put into effect. There is always a general tendency to operate boilers in excess of the load requirements. Accumulation of soot on the external sides of tubes should be carefully observed and a schedule for external cleaning put into effect, otherwise 3 to 5 per cent of the fuel may be wasted. If scale is accumulating rapidly on the internal surfaces of tubes a chemical analysis of the feed water should be made and proper treatment prescribed for the water.

#### THE ENGINE ROOM NEEDS CARE ALSO

In the engine room tests should be run on the main units to determine the most economical load for each. A schedule of unit operation should be put into effect which, when followed, will produce a maximum over-all engine-room efficiency for any given load.

The engineers should be trained and educated in the economic value of following this schedule, and in the economical operation of engine-room auxiliaries, at all times maintaining a maximum vacuum on condensing equipment, while circulating a minimum amount of condensing water. The amount of steam auxiliary equipment to be operated should be just sufficient for heating boiler feed water without waste of steam to atmosphere.

Operating log sheets should be introduced, showing graphically the load carried with a superimposed graph showing the capacity in equipment operated. The readings of all indicating graphic and recording instruments should be included in the operating log and arranged in such manner that a complete analysis of each day's operation can be made.

#### OTHER IMPORTANT MATTERS

Accounting for material used and material on hand, particularly fuel, is a very important feature in station economy. A complete record of operation should also be kept. A brief synopsis of the most important features should be sent daily to the manager or superintendent, informing him of the economic results of each day's operation. A schedule of systematic maintenance and inspection should also be put into effect and the condition of each piece of apparatus should be fully recorded. The schedule should be so arranged that each piece of apparatus is inspected a certain number of times each year, the frequency of inspection depending upon the class of apparatus. Thus none of the equipment in the station is overlooked, and by the adoption of a schedule of this kind many serious accidents to equipment and men may be avoided, and continual service insured at a minimum expenditure for maintenance.

To maintain and operate a modern power station at high efficiency it is necessary to have an organization of more than average intelligence. It is therefore necessary to do considerable educational work within the or-



ganization. To encourage the individuals along educational lines some companies have advised employees to take correspondence school courses, and as soon as a course is complete they are reimbursed for the cost by the company. The plan has produced very satisfactory results. The rapid strides that are being made in power-station equipment and the necessity for its improved operation make it very necessary that the educational standard of the organization be advanced. If this is not done it is useless to expect a maximum result in operating economy.

As a result of following plans such as those outlined, operating costs can be easily reduced from 10 to 20 per cent, the condition of equipment can be improved without additional expense for maintenance and the operating force will be competent to cope successfully with new operating problems that may arise.

## Thoughts on Car-Shop Practice\*

The Author Outlines Methods and Costs Obtaining in an Efficiently Operated Electric Railway Repair Shop

BY THEODORE TAYLOR

Master Mechanic Northern Texas Traction Company,  
Fort Worth, Tex.

IN 1910 the cost of maintenance of rolling stock of the company with which the writer is connected was slightly in excess of \$17 per thousand car-miles. For the year 1916, the same expense accounts amounted to \$8.25 per 1000 car-miles. This reduction was made possible by various causes acting together—it would be unjust for the shop to take the credit for all the saving. To the designers of the equipment and its builders, together with many others, belongs a good share of the economy effected.

Too much emphasis can hardly be placed upon the necessity of regular and systematic inspection of all parts of a car, and more especially is this true of the motive equipment. It is exceedingly good practice to place a car over a pit every four or five days at the least and then give the motor a thorough inspection. The openings in the motor case allow, with the use of a flashlight of generous proportions, pretty thorough examination of the surface of the commutator, the condition of the banding, loose coils, defective connections, inclination of and condition of brushes and other details. A fiber gage can be used to determine whether the bearings are letting the armature down in the slightest, and it is possible practically to eliminate the danger of tearing up an armature in that way. All trolley wheels should be inspected and set straight in the poles and the bases lubricated and adjusted for tension every sixty days. Adjusting the tension between close prescribed limits by means of a spring balance, changing the shape of the groove of the wheel after carefully investigating the subject of wheel wear and consulting with the manufacturers, and faithful inspection have brought our mileage on the interurban division from 1500 to 4500 miles per wheel, and made a corresponding saving on the city lines.

Lubrication costs are capable of amazing reductions. The writer now lubricates an entire system for 17 cents per thousand car-miles, whereas a few years ago 28 cents was the figure. Heavy blue felt of the highest degree of absorbency, immersed ten days or more and thus thoroughly saturated with lubricant, then cut to size and placed in the motor oil cup has proved for years a most dependable method of lubrication.

One of the principal savings made by the writer in some years has been through the purchases of an electric arc welder. Motor cases, gear cases, armature shafts, worn journals, broken brake rigging, the smaller truck parts, practically, in fact, all the lighter forgings and castings about a car can be repaired quickly and economically. For example, in the case of a loose pinion and enlarged keyway, without the welder, it would be necessary probably to renew not alone the shaft, but a full set of coils, mica rings and insulation.

It should be of interest to all operators to learn of the success which can be made with the color-enamel system of painting cars. A car can be put through the paint shop and be out of service less than two weeks and require an expenditure of labor and material of from one-third to one-half of what was necessary under the old paint and varnish system. For the small, single truck car the old method cost approximately \$120, while through the use of the imported color enamel, the cost is \$45 per car, besides the saving in idle time. The figures for the double truck car are \$130 against \$55. The job stands up better than in the case of the old system, for the surface retains its luster and remains free from fine cracks. The variety of shades available is, to be sure, limited, but our system is at present using the material on all city car bodies and trimmings, thereby getting much longer life, a better appearing car and saving anywhere from \$70 to \$80 per car.

As a general proposition it can be asserted that it is poor economy to purchase anything but the best of material. The best grade of waste at 28 cents per pound for lubricating purposes is more economical than a waste that could be used and cost one-half as much. It would seem poor economy, judging from the writer's experience, to purchase anything but a babbitt metal with a tin content of at least 85 per cent. Trolley rope of the highest grade at 50 cents per pound is a better investment than the salesman's "just as good" at 35 cents. Car maintenance and repair material may be bought intelligently and with an eye toward saving, but our experience is that in material which has to stand up under the conditions confronting the ordinary street car, the best is none too good and purchases should be made fundamentally on a quality basis.

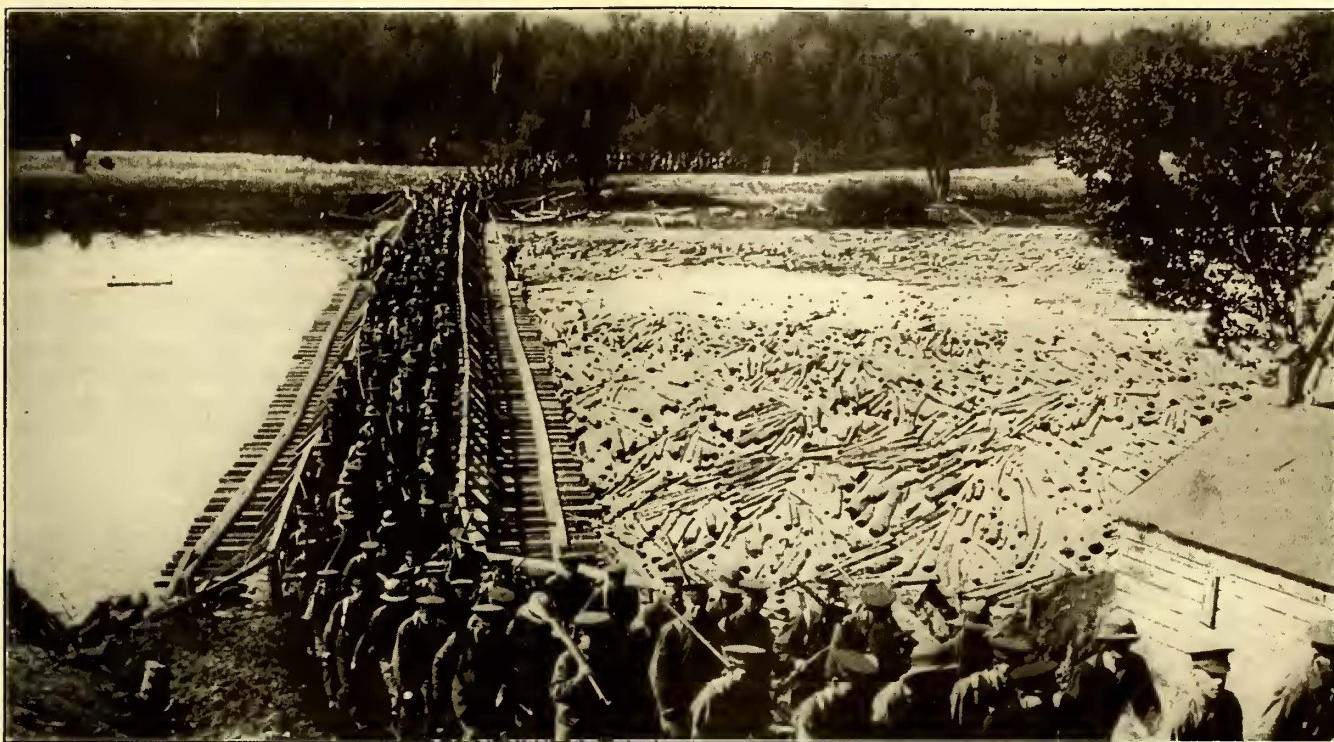
There is no department of the average street railway in which ancient practices can take firmer root than in the repair shop. Anything that will bring to the attention of the foreman and the men new methods and the results to be obtained from applied ingenuity will have most excellent results. All the men should, at the very least, have access to the current trade journals, and if it is in any way possible, they should be induced to take out subscriptions of their own, the company assuming a portion of the cost.

## An Appeal to Auto Owners

The New York, New Haven & Hartford Railroad in its campaign to prevent accidents at grade crossings has issued posters urging drivers to use extreme caution in crossing railroad tracks. These posters are being displayed in conspicuous places along the New Haven lines. The posters call attention to the fact that more than 2000 persons were killed in 1916 in grade crossing accidents. Also that the number of persons killed and injured by these accidents is increasing at the rate of 25 per cent each year. In the first two months of this year there were ten accidents of this kind on the New Haven road, in which six persons were killed and thirteen injured. The posters are a direct appeal for a greater exercise of care by the automobilists of New England.

\*Abstract of a paper presented at the thirteenth annual convention of the Southwestern Electrical and Gas Association, at Dallas, Tex., April 26-28, 1917.





Copyright, 1917, by Underwood & Underwood.

## Canadian Experiences In War Time

Even with Nearly 6 Per Cent of the Population Under Arms, the Electric Railway Industry of Canada Has Been but Slightly Affected by the War—The Labor Shortage Has Been Marked, but Traffic Frequently Has Been Stimulated

JUDGING from the experiences of Canadian electric railways during the last three years, the entry of the United States into the war will make hardly more than a negligible change in the conditions of electric railway operation in this country, even with the raising of an army of 2,000,000 men. This conclusion is based upon the fact that our ally to the north, with a population somewhat in excess of 8,000,000, has enlisted an army almost 500,000 strong, thus sending to the front nearly 6 per cent of the total number of inhabitants. In the United States, with 100,000,000 people, the proposed army of 2,000,000, which appears to be the generally accepted probable maximum, will result in the engagement of only 2 per cent of the population by the active military establishment. Such a small percentage—one-third of the Canadian figures—can hardly exert an appreciable effect upon our electric railway industry, since the Canadian railways have been influenced only to a minor degree by an economic disturbance three times greater, relatively, than that which is likely to obtain in the United States.

For the average Canadian electric railway the outstanding features of wartime conditions have been a marked increase in wages and cost of material over 1914 and a considerable change in personnel, mainly because of enlistments. Aside from these items the alteration in general conditions surrounding electric railway operation have been almost insignificant in character. In fact, the majority of reports state quite definitely that conditions have not been materially altered, the increased cost of operation being frequently offset in large part by an increase in traffic.

There have been heavy withdrawals of electric railway employees from service, due almost altogether to

enlistment in the army. The loss from this cause, which varies from 10 per cent to 30 per cent has, apparently, been characteristic of every railway company, but the extent of the loss seems to be dependent upon no particular set of circumstances. Since only the volunteer system of recruiting has been in force in Canada, no class of labor has been exempted, and the electric railway industry has been drawn upon just the same as the other industries of the country. However, it is reported that the National Service Board, which recently has tabulated the man-power of the Dominion of Canada, does not propose making use of electric railway employees in any other than the positions they now hold, in case extensive redistributions of labor are attempted.

### WITHDRAWALS OF EMPLOYEES

Platform men, because of the large number employed, constitute the major part of the withdrawals. All departments, however, are represented, and it is said that, since there are so many branches to the modern military organization, it is almost impossible to find a man in Canada to-day who cannot be used by the government in some capacity or other. Transportation is a very prominent feature of warfare, and good transportation men, as well as railroad engineers, both civil and mechanical, are in great demand. The demand applies even to ordinary railroad laborers. In some cases engineering and operating officials are considered to be of greater assistance to the cause if they remain in their civil positions owing to the fact that the roads employing them may be furnishing service that is vital to communities given over to the manufacture of munitions.

Only a comparatively small percentage of electric railway employees have left the service for the purpose



of taking up munitions work, but withdrawals have generally been heavy among employees having mechanical training. In the Western provinces farm labor has drawn an appreciable number of electric railway employees out of service, and one Western railway, which reports the loss due to enlistment at 30 per cent, gives the loss to the farms as 35 per cent, and withdrawals for various positions carrying greater remuneration (owing to the scarcity of labor) as 20 per cent.

At present there seems to be a tendency toward eliminating young men altogether from the personnel of electric railways in Canada. One company reports that all young men either have enlisted or else have been let out of the service, and their places have been filled by men who are not eligible for military duty.

In general, the opinion seems to be that about the same or a slightly smaller proportion of men have left the electric railway industry, either for enlistment or for munitions work, than has been the case in other industries. In one locality the loss of the electric railways was between 15 per cent and 20 per cent, while from the coal-mining industry in the same district the loss was 24 per cent. In only a few cases is the loss from enlistment believed to be greater in the electric railway field than in other industries.

#### MAINTENANCE OF PERSONNEL

Filling the places of the employees that have left electric railway service for various reasons connected with the war has been the most prominent problem faced by the industry in Canada, yet on the whole the consensus of opinion seems to be that the maintenance of the personnel has not really been difficult. The quality of labor for replacement, however, has been inferior, and in certain instances this has resulted in the introduction of one-man cars and even in the employment of women.

For patriotic reasons a number of electric railways have made special rules in regard to the selection of men for replacing withdrawals. One company states that no single men eligible for military duty have been employed since the war began, and for some time past preference has been given to applicants in the following order: Returned soldiers, soldiers who have enlisted and have been rejected before proceeding to the front, men who have applied for enlistment and have been rejected, and, finally, to married men who have not enlisted. In this particular case, however, the local scarcity of men does not appear to be so severe as it is throughout the Dominion in general.

A wholly different situation is evidenced by the following quotation from the manager of another company: "Operating, as we do, in a large industrial center, our labor situation has been acute for some time. To date we have been able to find men for the vacancies caused by employees enlisting, but in the more recent months the quality of labor that we have obtained has been inferior to that which was on our payroll prior to the war. We are looking forward to the necessity of employing women conductors in the near future, provided we find it unwise to attempt operating one-man cars. We believe this latter type of car to be one of the solutions of our labor situation, and the present time is most opportune to inaugurate their use. We have found it increasingly necessary to introduce labor-saving machinery and methods, not only from the standpoint of obtaining the greatest output from our present employees in maintaining the service that we gave prior to the war, but also to enable us to undertake the additional work necessitated by our increased business."

The general opinion, or average situation, is perhaps best outlined by an official of a city railway of mod-

erate size as follows: "We have experienced no difficulty in maintaining our forces, although most of the men that we originally employed were young and many of these have enlisted, so that we have had to fill their places with older men who are perhaps not so reliable nor so well trained. We replace these men as far as possible with returned soldiers who have been unable to continue at the front either from wounds or other causes. We have had no difficulty in keeping together our force of shopmen. This has been a question of wages only, and as long as we could keep our shop employees' pay up to that of the munitions factories the men have been content to remain. In fact, they have remained with us at a lower rate of pay than they could have obtained by working on munitions as they have realized that their employment here is steady. In addition, they are used to our work and prefer it to the more erratic and laborious employment in munitions plants."

From the foregoing paragraphs it is evident that the problem of maintaining the personnel varies greatly according to the locality, and although the majority of roads seem to find the problem of replacement of employees not an insurmountable one, there are others that find it exceedingly acute. In the latter case the need for labor-saving devices is more definite, and in the smaller cities the idea of one-man car operation has become popular. There is, of course, nothing to prevent the working out of this system to the satisfaction of everyone concerned and to the betterment of the rising cost of operation, which is very greatly increased.

#### WOMEN CONDUCTORS TRIED OUT

Owing to the experience with women conductors in England the use of women in Canada has received considerable thought, but apparently the plan has been actually tried out in only one instance. The following quotation gives an outline of the results in this case: "A result of the scarcity of available labor that was very strongly felt in this district came through employees taking advantage of the opportunity to agitate for higher wages. Because of the urgent call for volunteers and for farm help, we resorted to the expedient of employing women, and this has had several far-reaching effects. First, the unions, or the employees in general, recognized that the supply of women was a large one.

"With the women paid the same wages as the men the work was attractive to women, and the shortage of labor in this manner was made up. This stopped agitation on the part of the men. In the second place, the women took hold of their work in a surprising way, going through their training period more quickly than the average man. Thus far the women appear to be more exact and more conscientious in their work, and they are able to do everything the men did, with the exception of climbing upon the tops of the cars. To date we have used them only as conductors, and I would say that they have been a marked success. We have recently contemplated using women as oilers or in similar positions in the power house.

"After our experience here in a small way with wartime conditions, I feel that other and larger roads might seriously go into this question of replacing male employees with women wherever possible. A great number of difficulties would then disappear through the freeing of men for active military service, or for work upon munitions or on the farms, and in doing this a new source of labor supply is opened up with which to temper conditions and to prevent undue labor shortage, which always brings in its wake unrest, agitation and labor troubles. Our practice is to employ women of thirty



years of age or over, war widows, or women whose husbands are at the front."

#### INCREASED WAGES

Naturally the shortage of labor that has existed in Canada through the withdrawal from productive employment of 500,000 soldiers, together with the still greater number of munitions workers who supply their needs, has brought about large wage increases since 1914, with the possibility of still higher rates in future. In one case, which is thoroughly typical of average conditions it is stated that platform men, carhouse men and practically all mechanics were receiving 27 $\frac{3}{4}$  cents per hour when the war broke out in August, 1914. This rate was increased to 30 cents per hour on Oct. 1, 1916, and was again increased to 33  $\frac{1}{3}$  cents per hour on Jan. 1, 1917, thus making an increase of 20 per cent since the outbreak of the war. The wages of those in other capacities on this property and those who are in charge of the operation have been increased from 7 $\frac{1}{2}$  per cent to 10 per cent.

Accompanying the increased wages, the cost of living for employees has also risen rapidly so that, in many cases, workmen are probably no better off, if as well off, as they were before the war. This condition, as well as the shortage of men, has had a very definite effect upon labor unrest, and although labor troubles have not increased, it may be that they are rather held in abeyance than made definitely less. One report states that labor troubles have "increased, but not to the breaking point," as the government of the country during the war and the sentiment of the people in addition have a restraining influence upon the labor unions.

#### TRAFFIC, OPERATION AND MAINTENANCE

In general, the business condition of Canada has been one of great prosperity subsequent to the first months of the war, this being due to the immense amount of money spent by the government for supplies and for the labor engaged in the munitions factories. Particularly in the steel-making and manufacturing districts the general business prosperity has had a very favorable effect upon traffic, but the increased business of the electric railways has not generally kept pace with the increase in operating and maintenance costs. A majority of the companies consider that, in the final analysis, the net results from operation for electric railways have not been altered materially since 1914, even though traffic has very generally increased.

In some instances, of course, especially in the smaller cities, traffic has fallen off. This has been ascribed to the withdrawal of so many men from all classes of business, especially the mercantile trade, without the stimulus that munitions plants have brought to manufacturing districts. Consequently, in the small towns

there are not so many people to ride, and in addition the high cost of living keeps many people from spending their money for car fare. On interurban roads the passenger traffic seems generally to have increased because of the establishment of recruiting stations in the larger towns and cities and the consequent stimulation of travel between these points and the country districts.

A very considerable amount of traveling appears to be done by soldiers off duty, and this has an appreciable effect upon the traffic returns. There is no standard practice in regard to free or reduced transportation for such travel. The majority of roads make no arrangement for reduced fares or free riding for individual soldiers, and the prevailing attitude on the question seems to be fairly well summed up by the following quotation:

"All other lines of business are being paid exceptionally high prices for their output, and we do not believe that electric railways should be expected to carry free, or even to make reduced rates, for such transportation in view of the small margin, if any, that exists between income and operating costs."

Reduced fares for soldiers in uniform have resulted in one case in the sale of ten tickets for 25 cents in place of the regular ticket rate of six tickets for 25 cents, and in another case special tickets at 2 $\frac{1}{2}$  cents each. One interesting result of the issuance of free transportation to soldiers in uniform appears in the 1916 figures for a city system, which show that no less than 6 per cent of the road's total traffic was given gratis to soldiers!

Another phase of electric railway operation that has been materially affected by

the war appears in the great increase in the cost of materials for maintenance. The cost of maintaining railway property and equipment has increased in some cases by nearly 50 per cent, and the cost increase has been especially marked in the case of material that is brought in from the United States. Freight shipments of materials also are most uncertain because of the congestion of the railroads through the movement of troops and war munitions, and to overcome this many shipments which otherwise would come by freight have been routed by express in order that the material would be on hand when needed. Aside from this, deliveries on materials are, in general, much delayed and the standards of quality have, in many cases, been greatly reduced.

#### MISCELLANEOUS WAR-TIME ACTIVITIES

Practically all of the Canadian electric railways have made special efforts to stimulate enlistments not only among their own employees, but also on the part of the public in general, through the display of posters and other forms of advertising on the cars. This is, of course, a natural development from the adoption of the volunteer system. Payment of wages to employees who

### THE WAR AND CANADIAN ELECTRIC RAILWAYS

Canada, with a population of 8,000,000, has raised an army of 500,000 men—practically 6 per cent of her population.

Enlistments from Canadian electric railways averaged 20 per cent of the total number of employees. This is approximately the same percentage that applied to other industries.

Relatively few employees have left electric railway service to work in munitions factories, but withdrawals to the farms have been marked in the western provinces.

A labor shortage has been increasingly evident, but replacement of withdrawals has not been really difficult up to the present. One-man cars and women conductors have been introduced in some instances.

Wages have generally increased since 1914, paralleling the experience of the United States. The prices of materials have been greatly augmented.

Traffic has frequently increased, but the net results from operation of most electric railways have not been altered materially since 1914.



have gone to the front appears to be exceedingly unusual, but the younger men have been almost invariably encouraged to enlist. The following quotation covers a typical case of the attitude of a railway company toward its enlisted employees: "All of the men who enlist will be given their positions when they return in the same place on the seniority list as when they left. Our standard agreement calls for employees to indemnify the company for the cost of their uniforms if they leave within a certain time after employment by our company, but we have waived this for men who have enlisted. The street car advertising company has, at times, placed cards in our cars for recruiting purposes, and we have accommodated different battalions and batteries by placing recruiting banners on the sides of the cars and recruiting signs on the fenders."

An interesting comment in this connection appears in the statement of the manager of a representative Canadian interurban railway: "I might say, in conclusion, that the volunteer system of recruiting has reached its limit in Canada, and if the war is to continue much longer, we look for conscription here. We would like to see the recommendation of your President prevail in regard to this matter."

Many of the electric railway companies, in common with other Canadian industries, have contributed liberally to patriotic and Red Cross funds for the benefit of wounded and returned soldiers. Also, as has been previously mentioned, a consistent endeavor is made to provide men that have returned from the front with suitable positions. In this the electric railway companies have done their share in the work of absorbing these men into the ordinary activities of civil life with a minimum of confusion.

Some munitions have been manufactured on a relatively small scale in electric railway repair shops that are large enough to permit portions of the buildings to be turned into plants for this purpose. None of the average-size electric railways, however, is sufficiently well equipped with shop facilities to permit such work, although it appears to be conceded that by doing such work the electric railways could be of considerable service to the government.

The more important interurban railways have been used from time to time by the government for the movement of troops. For this service the government pays 2 cents per mile per soldier. The city railway systems, however, have apparently been used not at all for the transportation of troops or munitions.

## Creating Passenger Traffic

Chicago, North Shore & Milwaukee Railroad Is Actively at Work Originating New Travel by Means of Special Trips and Electric Line Tours

VERY recently the Chicago, North Shore & Milwaukee Railroad, Highwood, Ill., carried 1179 school teachers over its lines to the Great Lakes Naval Training School, located about 25 miles north of Chicago, where the officers in charge had arranged for their entertainment with drills, boxing bouts, athletic events, sham battle, landing expedition, etc. The interesting thing about this from a traffic point of view is that the excursion was worked up in about two weeks' time, that only \$30 in advertising literature was spent, and that the teachers came from as far as 250 miles in all directions around the training station. There were fifteen car loads from Chicago alone and several car loads from Milwaukee, Racine and Kenosha, Wis. A six-car special train was run over the elevated structure in Chicago to

the Sixty-third Street and Stony Island Avenue terminus to accommodate the teachers from Michigan City, Hammond, Gary, Whiting and other cities south of Chicago. Eight cars were started at the Water Street stub terminal in the central business district of Chicago and one car was run through from Oak Park over the elevated and north. As the result of talks in Kenosha and Racine by F. W. Shappert, traffic and industrial agent for the North Shore Line, who is singularly responsible for the success of the trip, the commercial clubs and a few local concerns provided funds to send the teachers from their cities, and one car was chartered for the former and two for the latter city. In addition to the success of the immediate trip, other traffic is anticipated as a result of this excursion, since several of the principals told Mr. Shappert they would be glad to charter cars to take their schools to see the training station.

This is only one of many plans Mr. Shappert has in course of preparation to create new passenger travel over the North Shore Lines. A few weeks ago he secured a contract from the government to transport nearly 800 troops and their equipment from Fort Sheridan to Milwaukee, and has since been receiving considerable of the recruit movement to Fort Sheridan and the Great Lakes Naval Training School. Now, plans are being developed to offer to the public a number of attractive summer tours by way of electric lines and arrangements have already been completed with the Pere Marquette boat line across Lake Michigan from Milwaukee through F. C. Reynolds, vice-president and traffic manager, for through fares and advantageous connections to summer resort points in Michigan. Negotiations with other boat lines are also under way. Better time and a cheaper rate can be made from Chicago to Michigan resorts by way of the electric line to Milwaukee and across the lake to Ludington than by the steam lines around the foot of the lake. The Pere Marquette has assigned twelve staterooms a day to the North Shore Lines so that through accommodations may be assured. Co-operation with the hotels in Wisconsin and Michigan and general distribution of North Shore time tables and printing of the latter in the Pere Marquette steamer folders are expected to encourage new traffic.

The circle tours under consideration include the trip to Milwaukee over the electric line and across the lakes and back by way of Michigan, Ohio and Indiana electric railways. Special excursions from Wisconsin points to Starved Rock, Ill., and the Sand Dunes on the south shore of Lake Michigan, etc., are also planned.

Mr. Shappert is going into these detail arrangements very thoroughly with the view of being able to guarantee to the patrons of the electric line all accommodations promised throughout their trips. The possibilities for increasing the passenger traffic by these special trips and interchange with other lines have not been touched, according to him. With his former steam railroad experience to guide him, he says that the principal thing the matter with the electric railways is that they do not work together to use each other enough. The only discouraging thing about such a trip as the school teachers took is that the distance of travel is comparatively short and the revenue resulting amounts to only hundreds of dollars while thousands of dollars are almost as easily gained on a steam line through the longer haul possible. But the possibilities per mile of track are no greater and with co-operation as the keynote of his activities, Mr. Shappert is going ahead to solicit interchange with other electric lines in no small measure to produce a greatly increased electric line passenger traffic.



# Preparations for Shortage of Food and Labor

Many Electric Railways Have Encouraged Practical Patriotism by Offering for Cultivation Their Rights-of-Way, as Well as Other Land That They Own—Employment of Women in Various Capacities Is Under Consideration by Many Railways

**M**ARKED activity on the part of electric railways has been in evidence during the past week in response to the recent appeal of Herbert C. Hoover, who was until recently chairman of the Belgian Relief Commission and is now head of the American Food Board. "The total stock of food available to-day in the allied world," said Mr. Hoover, "is simply not sufficient to last until next September if America continues her present rate of consumption. The only hope of supplying the deficiency is by elimination of waste and by actual, rigorous self-sacrifice on the part of the American people. We must also plant everything and plant it everywhere it will grow, or next year the food problem will be absolutely unsolvable, and the world will face absolute starvation."

## KANSAS INTERURBANS ENCOURAGE TRUCK GARDENS

The alarming situation thus outlined has met with a prompt response by many interurban railways of the Middle West. The Arkansas Valley Interurban Railway, which runs through a typical agricultural district, is planning to get much of the 52 miles of right-of-way between Hutchinson, Kan., and Wichita, Kan., planted in alfalfa. This will probably be raised and harvested by farmers who own abutting land. The company may plant part of the right-of-way itself, using construction gangs, which will thus be kept in employment after the completion of the present stress of work in ballasting the line. It is believed that such work will keep construction gangs intact, since many of the men are former farmers. Two of this company's substation agents, who live in quarters above the substations, are cultivating about 5 acres apiece of the right-of-way, their wives assisting in the gardens.

The Strang Line, between Kansas City and Olathe, is allowing employees to use the right-of-way for gardening, and a total of about 5 miles at various points along the line is under cultivation this spring. In several instances section men have gone into partnership to cultivate such tracts. In two cases persons not employed have been given the privilege of using the right-of-way for gardens. The company has provided implements for plowing the land for its employees.

The Missouri Short Line, between Excelsior Springs and Kansas City and St. Joseph, is permitting employees and farmers to use the right-of-way for crops. The management, while regretting the destruction of sod upon its right-of-way, believes that the use of this land will attract attention to the necessity for intensive cultivation of adjoining ground.

The Bonner Springs Lines has made contracts with owners of adjoining lands, whereby they use the right-of-way for crops at a nominal rental. The crops are chiefly forage, and stipulation is made that no growths shall be high enough to obstruct the view from trains. Much of the right-of-way is now planted in alfalfa and clover under such contracts.

Wherever outsiders are allowed to use rights-of-way

the arrangements are made from year to year. Managers believe that the desire this year to get good crops will result in effective efforts by the users in keeping the weeds down.

Not all of the interurban operators in the Kansas City district favor turning over their rights-of-way for cultivation. "We have spent seven years getting a stand of sod along our right-of-way, and we don't want to sacrifice this grass while 26,000 acres of land within a mile of the right-of-way is lying idle," said one manager. "People would come miles to use a corporation's land if it was given free, passing right by other land that is better adapted to cultivation and more convenient to cultivate.

"In the cities, and especially in the suburbs, there are hundreds of thousands of acres that are not used at all, or yield only a scant pasture. Such land is usually being held for speculation. In numerous cases farmers or city men own pasture lands that supported a few years ago five or ten times as many cattle as are kept on it now. Cattle are scarce and high and excess grass is not harvested. Additions of hundreds of acres yield only weeds.

"Farther from the large cities the interurbans encounter a different situation. The farms hug the town limits closely and all the ground is usually well cultivated. The smaller towns also are largely relieved of the danger that confronts the large-city interurban in letting down the bars to trespassers."

## TRUCK GARDENING ON OTHER ELECTRIC RAILWAYS

A feature of the plan of the Northwestern Ohio Railway & Power Company to encourage employees in raising their own garden products on the company's unoccupied land is an arrangement that has been made with a canning company whereby all vegetables thus grown will be purchased at the market prices.

More than 300 employees have taken advantage of the Brooklyn Rapid Transit Company's offer of its vacant land for cultivation. Nearly half of this number is made up of men in the mechanical department. In some of the locations planting has already begun, and in nearly all the preliminary clearing work is under way. In a recent notice to employees Colonel Williams, president of the company, stated that the trucking department had on hand a considerable amount of fertilizer which could be used, and that instructions had been given to convey this to the land that had been allotted free of expense to the employees.

On the Reading Transit & Light Company's property the plan has been followed of carrying out farm work by a co-operative arrangement between the employees. The company has turned over 40 acres of land to its men and this has been laid out in lots of 80 ft. x 100 ft. A committee of employees experienced in farm work is supervising the operation. The company has plowed and harrowed the land and is furnishing all the seed that is necessary.



A competition has been inaugurated among employees of the Indianapolis & Louisville Traction Company, whose land is being offered free of cost to employees for use for gardens. Prizes will be given for the best results. John E. Greeley, general manager of the company, has sent letters to all employees urging them to enlist in the "more-food" movement. In part the letter states: "The company owns many small tracts of ground along its line which will be offered without charge to any employee, and in connection with this the following prizes will be offered by the company: First, \$20 in gold to the employee producing the best bushel of potatoes on ground owned by the company; second, \$15 in gold for the best bushel of potatoes produced by an employee on any ground; and, third, \$10 in gold to the employee having the best truck garden containing, among other things, any three of the following: tomatoes, beans, peas, beets and onions. The garden must be on ground owned by the company and not less than 50 ft. square." No two prizes will be given to one person, and in order to compete for the prizes an employee must hand in a contest entrance blank by May 15.

A feature of general interest in this movement has been the recent action of the Merchants' Association of New York. This organization is urging by circular that all employers should make an effort to transfer men from factories to farms during part of the summer in order to relieve the scarcity of farm labor that may be expected at that time. The plan is to contribute the time of any employees who are willing to undertake the work by giving them vacations under part or full pay for two or four weeks. Part of the men's pay will, of course, be covered by the wage of \$1 per day that the average farmer may be expected to pay for help during the crop season, and it is pointed out that the employers may expect to benefit indirectly since short crops and excessive food prices will tend greatly to increase factory labor costs, while an abundant food supply will aid in keeping factory wages at a normal level.

#### EMPLOYMENT OF WOMEN BEING CONSIDERED

A number of electric railways have taken actively under consideration the matter of employing women for services where the physical labor is light. None has yet been employed in connection with the present shortage of labor on electric railways, but the use of women to release male employees has begun already on several steam railroads, notably the Pennsylvania, on which line an elaborate investigation is under way, while at the same time a number of clerical positions have been opened for the first time to women. On the Delaware, Lackawanna & Western Railroad, also, the beginning of a substitution of women for men ticket agents has taken place.

The plans of the Interborough Rapid Transit Company, which is now conducting an investigation on the subject, provide for the employment of women only as fast as men are drafted into military service. On the Boston Elevated Railway, according to a statement made by H. B. Potter before the Massachusetts Public Service Commission, the probable emergency created by the enlistment of employees will be met, if necessary, by the employment of women as conductors. It is expected that 1500 employees of this company will be drafted under the conscription act. Mr. Potter stated that the company had made an effort in Washington to have its motormen exempted from conscription, but that this had failed.

Women probably will replace men as conductors on Kansas City cars when the first million men shall have been called to the colors. An investigation is at present under way by the Kansas City Railways Company with

a view to being in a position to make such changes as may be necessary for the adaptation of the company's service to the exigencies of the anticipated conditions.

#### NOTES ON WAR-TIME CONDITIONS

The United Railways of Baltimore has made every effort to encourage patriotism on the part of its employees, and as a result no less than ninety-nine of the men in the company's service are under arms. The men have been drawn from every department and have joined the colors in practically every arm. The National Guard infantry regiments have naturally attracted most men, but the company is represented also in the Naval Reserves, the Coast Artillery, the United States Aviation Corps, the Navy, the Marine Corps, the Cavalry and the Reserves.

On March 28 the company's executive committee adopted a resolution, which later was ratified by the stockholders, to the effect that every man now in the employ of the company who enters the service of the army or navy of the United States, either as a volunteer or under call, will be paid his full wages during his active service with the government, less his government pay, and will be given employment by the company on his return.

The firm of Stone & Webster, Boston, Mass., recently addressed the members of its organization in regard to the action that the personnel should take in the present national emergency. It is considered that a uniform decision on the question is impossible because of personal conditions and duties vary with each individual. Attention is called to the fact that the company's organization offers two opportunities for service: First, in the operation of the company's public utilities, which must be continued to permit the various communities to carry on their work, and, second, in connection with the very considerable amount of engineering and construction work which must be performed by the government with more than ordinary rapidity. The company has submitted a letter to the government offering the services of the company's organization for engineering and construction work at cost.

A plan for facilitating small subscriptions to the government war loan has been presented to 1000 Chicago firms by H. M. Bylesby & Company. This organization offers the facilities of its bond department without charge, and also offers to supply subscription blank cards, without advertising matter, suitable for inclosing in pay envelopes to employees, who thus may have the war loan called to their attention. Advertisements are being published by all of the public utility properties under the company's management urging popular subscription to the war loan and offering such subscriptions without charge. These properties serve communities with nearly 2,000,000 population in the West and South.

A most comprehensive scheme of protection for the property of the Brooklyn Rapid Transit Company has been organized under Capt. A. R. Piper, United States Army, who is general freight agent of the company. The principal features of this plan include the establishment of city policemen outside of power houses and substations and the use of watchmen inside of these buildings and at all vital points during twenty-four hours of the day. Searchlight towers have been provided at power houses in such positions that the entire yard and buildings may be covered. The yards also have been cut off by wire fences, and windows near the street and monitors on roofs where overlooked by adjoining buildings have been screened with heavy wires. Rules for visitors have been made particularly stringent, admission being granted only to those personally known to the men in charge. The entire list of employees has:



been carefully investigated and records of aliens searched. When any question as to the integrity of any employee has arisen the matter has been referred to the local police department for investigation. The police department has been asked also to pay particular attention to conduit manholes and to strategic points where extensive damage might be caused. It is considered, however, that this danger is diminishing.

In regard to the question of exempting electric railway employees from military service, Captain Piper states that he considers this unnecessary, and that it is advisable not to make any exception of electric railway employees, although it would, of course, be impossible to say to what extent the companies were going to be affected by the conscription law until definite age limits had been decided on by Congress.

Physical protection for company's property has been provided on the Toledo Railways & Light Company by a military company formed among the cadet engineers. This squad is being drilled by an army officer and will be used temporarily to guard the company's property; it includes the company's baseball team, and an endeavor will be made to have the men go to the front in the same organization if this is feasible.

WAR CONDITIONS IN LIVERPOOL

The annual report of C. W. Mallins, general manager Liverpool Corporation Tramways, for the calendar year of 1916 gives several interesting facts in regard to the conditions on that system brought about by the war. In the first place, Mr. Mallins reports that the increase in traffic experienced on other British tramways has taken place also in Liverpool. The number of passengers carried in that city in 1916 was 157,636,595, as

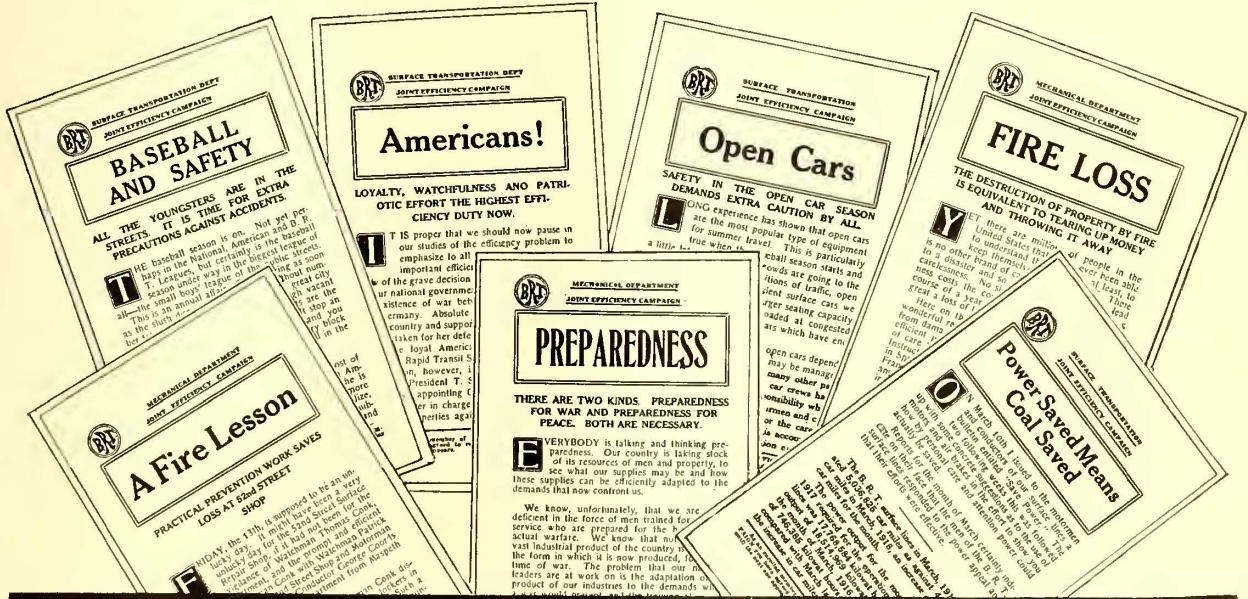
against 150,755,680 in 1915, and the car mileage 12,688,163 as against 12,682,018 in 1915. Last year was the record for traffic on the Liverpool tramways, and operations were carried out under very strenuous conditions, owing partly to the difficulty of obtaining supplies and partly to the depletion of the staff, as out of 2700 men no fewer than 1900 joined the forces. Of this number 100 have fallen at the front. The vacancies created by employees joining the colors were filled, as far as possible, by men incapable of military service or by women. This latter class of labor, the general manager adds, has performed its duties as well as could have been expected under the circumstances, and the majority of the traveling public has shown admirable toleration of the conditions. The present staff consists of 1311 male and 1405 female employees.

Safety Medals Presented

The American Museum of Safety last week informally presented the several safety medals which are usually presented at the formal annual meeting. This year on account of the war conditions the usual meeting was omitted and in its place an informal luncheon was held, attended by representatives of the recipients and of the museum. Details regarding the award of these medals have been given in earlier issues of the ELECTRIC RAILWAY JOURNAL.

The Board of Public Utilities of Los Angeles, Cal., has compiled data showing that it would take 11,480 Ford touring car jitney buses to handle the rush-hour traffic handled by 700 cars of the Los Angeles street railways.

Recent Bulletins in the B. R. T. Joint Efficiency Campaign



The efficiency campaign which has been under way for several months on the Brooklyn Rapid Transit System is acting to co-ordinate the interest and activities of the men of all departments. As stated in an article in the issue of the ELECTRIC

RAILWAY JOURNAL for March 24, nearly 95 per cent of the motormen and conductors are enrolled in the campaign and are reading the bulletins systematically. The reproductions above are from the title pages of some of the latest bulletins.



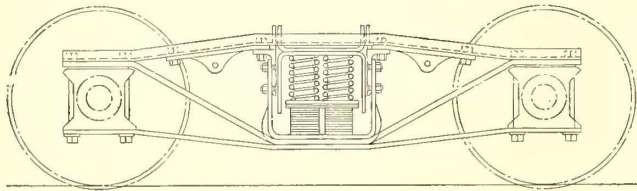
**COMMUNICATIONS**

**Equalizer Bars Not Necessary**

L. B. STILLWELL, CONSULTING ENGINEERS  
NEW YORK, April 27, 1917.

To the Editors:

I was very much interested in the article on truck equalization, in your issue of April 21, by S. A. Bullock, and though agreeing with him on the necessity of distributing the center plate load equally on all four wheels of the truck, I take the position of disagreeing with him in his conclusions as to the best method of securing the desired result. All will agree that it is obviously impossible for the four wheels of a truck always to remain in the same horizontal plane. The inevitable inequalities of the roadbed and other factors cause constant changes of the relative elevation of the wheels. Consequently, to permit of this relative movement of



TRUCK EQUALIZATION—FIG. 1—PLAIN ARCH-BAR TRUCK WITHOUT SPRING LINKS, USED FOR LOW-SPEED CITY SERVICE

the wheels and axles sufficient flexibility of the truck as a whole must be provided.

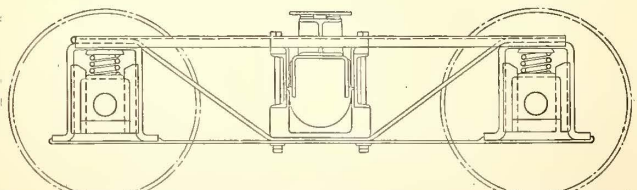
The successful operation of the large number of trucks of the plain arch-bar type shown in Fig. 1 of Mr. Bullock's paper is ample evidence that sufficient flexibility for the purpose of equalization is provided therein. The same may be said of all of the other types illustrated.

The type of truck with equalizer bars shown in Fig. 4, which is advocated by Mr. Bullock, commands respect due to its age rather than to its specific characteristics and operating record. With this design the incorporation of unnecessary weight in trucks is manifestly uneconomical—just as is the incorporation of unnecessary weight in steel cars.

Mr. Bullock's stated objections to the type of truck illustrated in Fig. 3, which has springs directly over the journal boxes, are answered by the operating record of this design. Such trucks are giving very satisfactory service under severe operating conditions as well as under cars where clearances are extremely limited.

Also, Mr. Bullock's statement that efficient equalization requires a spring base less than the wheelbase was apparently made without consideration of the tilting of truck frame which follows brake applications. The smoothness of stop accomplished from high speeds in the case of cars fitted with trucks having springs directly over the journal boxes is a feature worthy of consideration.

F. M. BRINCKERHOFF.



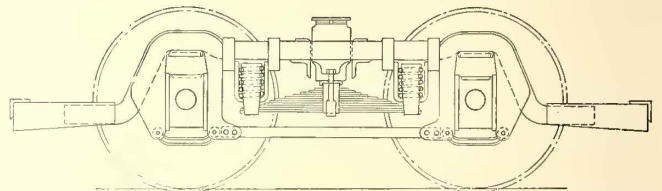
TRUCK EQUALIZATION—FIG. 3—HIGH-SPEED DESIGN HAVING SPRINGS OVER BOXES INSTEAD OF EQUALIZER BARS

THE PENNSYLVANIA RAILROAD COMPANY  
ALTOONA, PA., April 28, 1917.

To the Editors:

After reading Mr. Bullock's article on truck equalization, it occurs to me that he has entirely overlooked some of the fundamental principles of truck design in trying to favor the use of equalizer bars. No doubt every designer will agree that it is desirable that all trucks be equalized in some manner. But other statements made by Mr. Bullock should be proved by him, or will have to be taken as merely his personal opinion. Some of these statements are as follows:

1. "The manufacturer has in some cases eliminated the equalized construction and substituted a frame of rigid design, similar to the old arch bar.
2. "There are two objections to the design of truck with springs over the journal boxes: First, it is not properly equalized, and, second, it requires undue space over the journal box for its application.
3. "Efficient equalization requires a spring base less than the wheelbase."



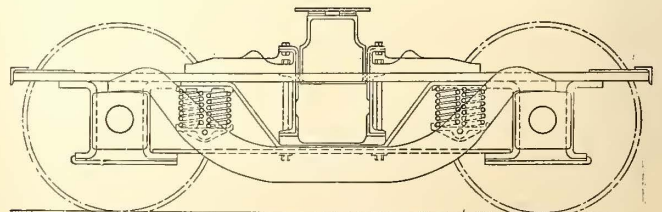
TRUCK EQUALIZATION—FIG. 2—DESIGN FOR CITY SERVICE PERMITTING FREE TRANSVERSE MOVEMENT OF BOLSTER

With regard to the first statement it may be said that the earliest four-wheel trucks of which we have knowledge had frames consisting of two longitudinal beams supported on the ends of the two axles, and a transverse beam supported on the centers of the longitudinal beams. The three beams were not firmly tied together. In such trucks the equalization was as perfect as in any modern truck; in fact, the equalization had to be perfect, as the roadbed at that time was much farther from perfection than any modern roadbed. The absence of truck springs resulted in hard riding qualities.

In analyzing trucks the equalization and spring gear must be considered separately, even though the deficiencies of one may be compensated by the other. The truck described above, though primitive, had an equalization which was fundamentally perfect but, lacking springs, rode hard. On the other hand, if the truck frame and transom is a solid non-flexible casting, supported directly on the journals, and the car body is supported on very flexible springs, the car may have easy riding qualities, but on bad track the truck will derail.

Clearly, therefore, track conditions govern equalization, and riding qualities govern the spring gear.

The arch-bar truck used in freight service is not a rigid design, as implied by Mr. Bullock in his comments on the design shown in Fig. 1. Each side frame is really an equalizer between the two axles. The tie between the two frames consists of a wide channel, applied flatwise directly under the bolster. The resulting truck



TRUCK EQUALIZATION—FIG. 4—TYPICAL EQUALIZER-BAR CONSTRUCTION FOR HIGH-SPEED INTERURBAN SERVICE



frame is sufficiently flexible for any irregularity of present-day track surface, and is at least as flexible, in view of the transom design indicated, as that of Fig. 4, which has typical equalizer-bar construction.

The springs of the freight truck are cheap, and have but a small range of deflection. Trucks as shown in Fig. 4 have two sets of springs—one set of elliptic springs and one set of helical springs—in addition to bolster suspension, permitting bolster side motion. The better riding qualities are due only to the greater range of spring action and to the possible bolster side motion—not to equalization. If the freight truck, like Fig. 1, were provided with springs equivalent to those commonly used in trucks like Fig. 4, and if the bolster were suspended from hangers, the freight truck would have riding qualities equal to those ascribed to Fig. 4.

With regard to the second and third statements quoted after the first paragraph, I may say that the spring base of a truck should not be short, especially on cars with one brake shoe per wheel. Tilted trucks under brake application illustrate the reasons for such statement. With non-flexible transoms between truck frames, the spring flexibility should increase in direct proportion to the distance of the spring from the transverse center line of the truck. If, however, the two side frames are held merely in parallel planes and are connected by a transom very flexible against torsion, it is immaterial whether the springs are over the boxes or between the boxes. Placing them over the journal boxes has the advantage of reducing the non-spring-supported weight of the truck, thereby reducing the hammering and consequent distortion of the rail at joints.

In all of the trucks to which Mr. Bullock refers, irregular track will cause torsion strains in the transom, requiring transom flexibility, or in lieu thereof spring flexibility between the truck frame and journal boxes. If, in trucks with stiff transoms, the spring flexibility is derived from springs with a spring base of, say, three-quarters of the wheelbase, the springs may have less flexibility than if they are placed over the boxes when compensating for track irregularities. But the springs should have the same flexibility for good track.

All this goes to show that equalization can be accomplished equally well in any existing type of truck and that springs of sufficient flexibility for comfort can be, and are, applied under the bolster and over the journal boxes. Consequently, the designer is free to select that type which can be produced for least weight and cost.

W. F. KIESEL, JR.,

Assistant Mechanical Engineer.

[NOTE.—Owing to the several references as made above to the illustrations published with Mr. Bullock's article of April 21, these have been reproduced herewith with their original captions.—EDS.]

## Good Watches and Uniform Loading

HAMILTON WATCH COMPANY

LANCASTER, PA., April 30, 1917.

To the Editors:

I noticed with interest the editorial comment in your last issue on watch inspection. If the use of accurate watches by trainmen means as much as we think it does in the way of better service and more rapid schedules, and as you also seem to think, a very few dollars more for a good watch is a small price to pay for the resulting advantages.

I realize that when a railroad man has to purchase his own uniform and badge, and then a \$20 to \$25 watch in addition, it may seem somewhat of a hardship, but from a matter of dollars and cents it is a good economic proposition. When once railway men experience the satisfaction of owning a good watch I think they will

not have any objection to the initial outlay. But if they do, practically every jeweler will be glad to sell a railroad man on time, particularly if the street railway company gives indorsement to the men's purchases.

When one considers that there are some 225,000 miles of railroads in the United States under official time inspection and that the railroad men all over this vast mileage are buying watches on this same basis, and for the most part buying a much higher grade and consequently more expensive watch than the street railway man would buy, it would seem only the natural thing to expect the railway men in the electric railway service to equip themselves with this same efficient safeguard.

ROBERT E. MILLER.

## AMERICAN ASSOCIATION NEWS

### Committee on Rules

S. W. Greenland, Fort Wayne, Ind., and W. C. Callaghan, Norwich, Conn., of the T. & T. Association committee on rules, conferred in New York on April 26 with reference to possible changes in the rules. They concluded to recommend that no changes be made this year.

### Committee on Libraries

A meeting of the committee on libraries, appointed at the mid-year meeting of the executive committee of the American Association in Boston, was held in New York on April 23. The function of this committee is to consider the promotion of electric railway libraries and the possibility of utilizing the association office as a clearing house for information regarding them. At the New York meeting it was decided to collect information regarding company library practice for use in framing a preliminary report.

The committee comprises L. A. Armistead, librarian Boston Elevated Railway; I. A. May, comptroller The Connecticut Company; C. C. Mullen, chief of the inspection bureau Pittsburgh Railways; R. H. Johnston, librarian Bureau of Railway Economics, and C. W. Stocks, statistician American Electric Railway Association. At the meeting were Messrs. Armistead and May, of the committee, and E. B. Burritt, H. C. Clark and A. Shapiro, representing the association. The committee will meet again at an early date.

### Preparedness Program at Hartford, Conn.

The Connecticut Company section held its regular monthly meeting on April 25 at Hartford with 282 members and guests present, the record attendance so far. A program appropriate to the times was carried out as follows: Hal Fullerton, director of agricultural development, Long Island Railroad, spoke on "Agricultural Preparedness or How to Keep the Market Basket and the Haversack Filled." This was an illustrated talk explaining some of Mr. Fullerton's accomplishments in the line of agricultural preparedness achieved on his 22-acre farm on Long Island. Hon. George B. Chandler, compensation commissioner of the State of Connecticut, under the title "Preparedness and Transportation," explained in detail how transportation companies will form a vital link in rendering patriotic service in time of war. Major Frank Macomber, president Hartford Chamber of Commerce, spoke on "More Food Through Better Salesmanship." He offered several suggestions as to how the officers and employees of the Connecticut Company can spread among the farmers the gospel of proper marketing of their products, and said that an agricultural department or bureau might be established by the company.



# Practical and Economical Solutions of Problems in EQUIPMENT AND ITS MAINTENANCE

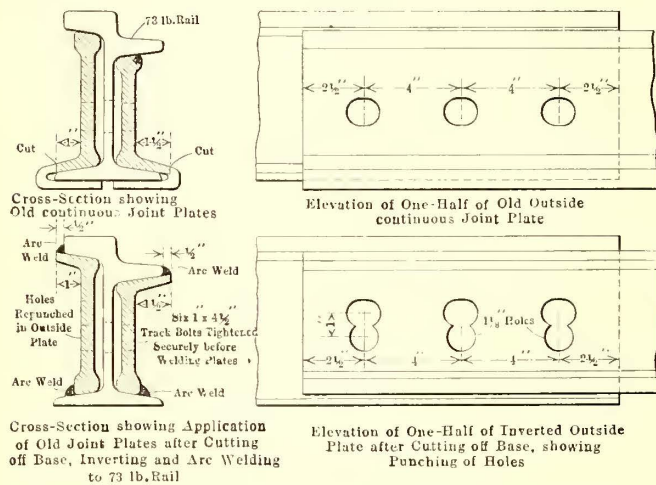
Every live shop, track, line and power plant man is doing something that others would like to know about. Such men have a splendid opportunity to assist the industry by notifying the editors of this paper of new things that have been done. Information may be sent in the form of rough notes or short articles, and special rates will be paid for all accepted material.

## Economical and Effective Method of Repairing Old Rail Joints

BY R. H. FINDLEY

Superintendent Track and Roadway Omaha & Council Bluffs  
Street Railway

In rehabilitating some of the old track in Omaha, Neb., in order to get a few years' more service out of it, a method of repairing the joints which has proved to be very effective and at the same time involves an expenditure per joint which is commensurate with the short additional life expected has been used on approximately 250 joints to date. The rail in this track is 73-lb. section No. 291 Lorain Steel Company tram rail with 26-in. continuous rail joints which have been in service about thirteen years. In rebuilding these



DETAILS OF RAIL JOINT REBUILT BY REVERSING PLATES AND WELDING

joints, the joint plates are removed and taken to the company shop, where the portion of the plate which extends under the base of the rail is cut off in a shaper. The plates are then repunched and put back on the joints, but inverted. They are then bolted in place and electrically welded along the top and bottom edges with an Indianapolis welder. The angle of the top and bottom faces of the plates and that of the rail are very nearly the same, so that the plates fit snugly when put on in this inverted position. By putting the bottom of the rail joint under the head of the rail the plate projects  $\frac{1}{2}$  in. beyond the head on the outside and an equal amount beyond the tramway on the inside, so that it is possible to weld with the arc. In the normal position it would practically be impossible to weld the plate underneath the head. The welding is carried along the complete length of the joint plates, giving four lines of electrical and mechanical contact.

The new holes, punched in the plates to line up with the holes in the rail, overlap the old ones slightly. But inasmuch as the welding prevents movement of the

plates relative to the rail the function of the bolts is not so important, and further there is no weakening of the web in the longitudinal direction in which the greatest stress occurs.

The cost of the joint, including the expense of tearing up and replacing the pavement at the joint, the labor of cutting off the base of the plates and repunching them, the installing and welding, and the cost of six new bolts and about 7 lb. of welding metal per joint, has averaged less than \$4.50 per joint. A more permanent weld with new splice bars, such as the Lorain electric weld or the Thermit weld, is considered too high in cost to warrant its use in repairing this old track. And since the web of the rail has become less than  $\frac{1}{4}$  in. thick it is considered of insufficient weight and strength satisfactorily to take a heavier weld. Where the head of the rail is cupped out at the joint it is built up with the welder. As soon as completed all joints are rough-ground with a home-made grinder and are later finished with a reciprocating grinder. The cost of this work is included in the above figure.

## Single-Truck Cars Remodeled Into One-Man Type

Other Kansas City Railways' Modernization Work  
Includes Splicing Two Single-Truck Cars to  
Form One Double-Truck Car

The remodeling of surface cars is being undertaken in the shops of the Kansas City Railways as rapidly as the requirements for heavy traffic will permit. The modernization comprises the rearrangement and re-fitting of the interior, the redecorating of both interior and exterior and, with some cars, the actual reconstruction from the trucks up, to the extent of splicing two single-truck cars to form one of the double-truck type. During the past year 1200 cars of all types were repaired at the shops, where \$600,000 is being spent annually.

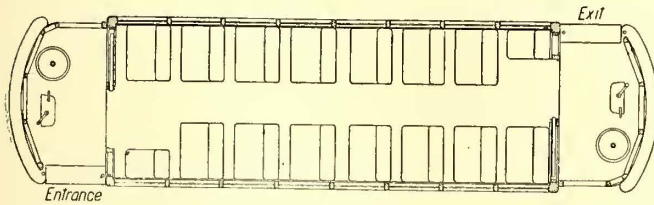
The work of converting old single-truck cars into cars of a one-man-operation type is being carried on at present at a cost of about \$600 per car. The reconstruction includes the laying of a new floor, the replacement of the front bulkhead by an arch, and the formation of an opening of increased size in place of the rear bulkhead doors. Two new vestibule doors are being installed at the front and rear of the car, both on the curb side. The rear door, for use in emergency only, is held closed by a folding seat and opens automatically when the seat is raised. A buzzer alarm circuit extends from the rear to the front platform. All of the seats were set crosswise in the old car, but half of these are now being replaced by longitudinal seats, one of which is shortened to allow free access to the combined entrance and exit, where the doors and steps of the folding design will be installed. In front of the longitudinal seats are installed four stanchions.



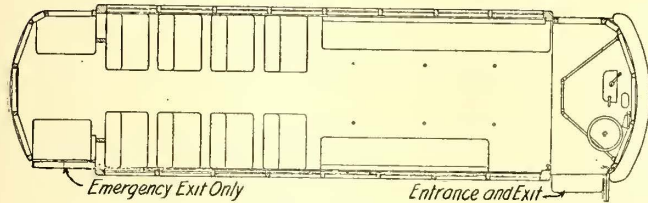
The seats themselves are washed and varnished by a machine which restores them to their original appearance. The former wood siding is replaced with steel.

The operating equipment in the rear end of the car is removed and the rear platform made part of the main car, while in the front end a railing is placed around the motorman's position, where fares will be collected by the motorman-conductor, who also operates the cars without changing position, although for the convenience of passengers fare boxes may be installed. The register equipment is being converted into a double register so that it may be used by the motorman-conductor or by an additional conductor if one becomes necessary.

As previously stated, the rear platform by being raised 9 in. is made part of the main car floor, necessi-



FLOOR PLAN OF SINGLE-TRUCK CAR BEFORE REMODELING



FLOOR PLAN OF SINGLE-TRUCK CAR AFTER REMODELING

tating a step at the emergency door. Another addition to the rear is an electric tail-light outfit.

One of the heaviest pieces of remodeling was that undertaken a few years ago when fifty double-truck cars were made by splicing 100 single-truck cars. Cuts were made at the second windows or about 5 ft. from one end of the single-truck cars, which were 21 ft. over the body, or about 5 ft. from the ends, making the completed new body 32 ft. 7 in. in length. The seating arrangement consisted of longitudinal and cross-seats. A longitudinal seat was placed at each end on opposite sides, and the cross-seats were arranged in like manner, thus giving plenty of aisle room. Each car cost approximately \$1,500. The cars have given general satisfaction and have proved sufficiently large on heavily taxed lines.

## Dustless Ash Removal

A recent issue of the *Electrical Review*, London, contained a description of a system of ash removal by the employment of which the conveying of the ashes is done under water.

Below the boilers is a concrete conveyor trough partly filled with water. The chutes leading from the ash hoppers under the boilers dip below the surface of the water in the trough, thus forming a dust seal. The conveyor scoops are linked closely together and are carried by rollers running on rails mounted on the top of the trough. A third rail on the bottom of the trough, in the middle, prevents the conveyor from rubbing on the bottom.

The delivery end of the trough is inclined upward to retain the water in the trough and to provide a chute for delivering ashes to cars conveniently located outside the boiler room.

## Asbestos and Varnish Make Good Field-Coil Insulation

This Combination Is Particularly Effective Where Motors Are Subjected to Severe Overloads, but Present Price of Asbestos Makes Method Expensive

BY F. J. FOOTE

Master Mechanic Ohio Electric Railway, Columbus, Ohio

The specifications for winding and insulating field coils which were given in the March 17 issue of the *ELECTRIC RAILWAY JOURNAL*, in the article on motor maintenance at Providence, were of special interest to me, since I have given a great deal of attention to the subject and like to know what others are doing.

Where the motors are not overloaded the method described for insulating the field coils should give excellent results. The writer believes firmly in the modern method of impregnating in a vacuum, where possible, but if the specifications mentioned in the article are carefully carried out this should insure about as long life to the coils as is secured by impregnating. Where the motors are required to carry heavy overloads, however, I have found by costly experience that oiled linen and cotton webbing, while giving excellent insulation to start with, soon disintegrate from the heat, and break down.

Because of excessive overloading of certain motors I was compelled, several years ago, to do something to keep the field coils in service longer, and my attention was called to the possibilities of using asbestos tape with insulating varnish only. At first this did not appeal to me, on account of the well-known low insulating value of asbestos. However, a careful investigation of some old motors having field coils thus insulated, which had been standing up under excessive overloads, was convincing, and the following specifications covering the insulation of strap-wound coils were made up, and have been followed for some time:

1. Wind coil sections with asbestos paper insulation between turns; put on terminals.
2. Put sections together with  $\frac{1}{8}$ -in. asbestos paper or board separators.
3. Bind sections together in place with a few turns of cheap open-weave webbing.
4. Heat coils in oven over night to remove moisture, and in the morning dip while hot in insulating varnish.
5. When dry enough to handle remove the temporary webbing. Wrap with one layer of close-weave, medium-weight asbestos tape, not overlapped.
6. Dip in insulating varnish.
7. When dry enough to handle wrap with a second layer of the same grade of asbestos tape one-half overlapped.
8. Dip in insulating varnish. Drain, and bake over night in oven.

By this process the asbestos tape is thoroughly impregnated. This is an important feature, for as was pointed out some time ago in an A. I. E. E. paper by B. G. Lamme, chief engineer Westinghouse Electric & Manufacturing Company, the heat is transmitted largely through the varnish, regardless of the kind of tape used.

I have found that this method of insulating gives by far the best results of any method yet tried where the motors must operate at a high temperature. The specifications which I have given apply only to strap-wound fields, as we do not undertake to rewind any round-wire fields. We have, however, reinsulated some of our old wire-wound fields by this method. Unfortunately, the present condition of the markets prevents us from following the above specifications, but as soon as asbestos is again within reach we expect to have all fields insulated in this way.



## Home-Made Air-Operated Punch

BY G. B. SISSON

Mechanical Department Georgia Railway & Power Company,  
Atlanta, Ga.

Recently we had a line department job of punching 18,000 holes in the braces of pole-top fittings. To do this our master mechanic, J. E. Eaves, rigged up a

pneumatic punch out of an old 8-in. brake cylinder. This punch is operated at 80 lb. to 100 lb. pressure per square inch and will punch holes up to 9/16 in. in diameter in rough stock 1/2 in. thick. It will turn out the work ten times as fast as it could be done by drilling, and it also saves the cost of the drills. The punches are interchangeable.

The pressure exerted on the lever is so powerful that the punch goes right through the stock, and in order to prevent its being stopped with a shock the spring shown under the air cylinder in the accompanying illustration is provided to catch this lever and act as a shock absorber.

AIR-OPERATED PUNCH WITH HEAVY SPRING WHICH ACTS AS A SHOCK ABSORBER

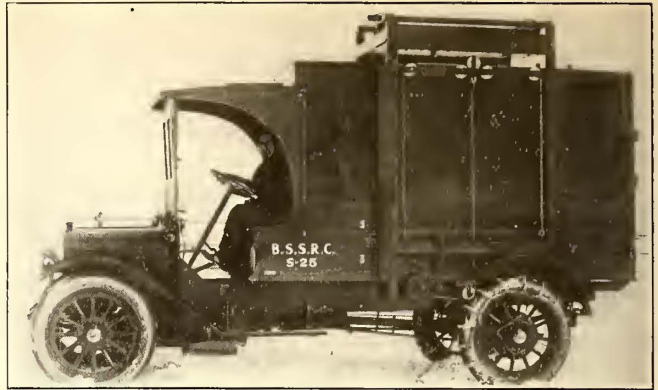
The controlling mechanism is made from a globe valve changed to act like a whistle valve. This is operated by means of a pedal. The punch has been found to be a convenient tool, and it paid for itself on the first job on which it was used.

## Sea Air No Tonic for Gulfport Cars

The interurban cars of the Gulfport & Mississippi Coast Traction Company, Gulfport, Miss., are being put through the Gulfport shops for a general overhauling. Because of the proximity to the salt water the equipment on this road is more than ordinarily subjected to the effect of damp air, and for this reason special protective measures are being taken. The road does a city and interurban service along the coast of the Gulf of Mexico in the southern part of Mississippi. Its tracks are parallel to the gulf shore and for nearly 20 miles are laid within 200 ft. of the water's edge.

In overhauling the cars new yellow pine creosoted sills are being installed which before installation are treated with a brush coating of Barrett's refined "Carbosota." The wooden sheathing of the cars is being removed, the framing repaired where necessary, and the cars are being newly plated with steel panels.

According to W. F. Gorenflo, general manager, the proximity to the ocean and consequent dampness makes it almost impossible to maintain composition ceilings in the cars. For this reason during the reconstruction new steel ceiling plates are being installed, and these are being covered with white enamel. The seats in the cars also are being recovered with Dupont fabrikoid. After the completion of the shop work the cars are painted a yellow color slightly darkened with amber, except the letter boards, which are painted red.



NEW BAY STATE TRUCK WITH PLATFORM LOWERED

## New Tower Truck of Compact Type

Compactness and Availability of Entire Interior of Body for Materials and Tool Storage Are Features of This Bay State Truck

Three motor-driven tower trucks of an unusually compact type have recently been placed in service on the Bay State Street Railway, the design having been made by Frank M. Spicer, general line superintendent of the company, Boston, Mass. The equipment consists of a special body, a platform and supports carried on the chassis of a standard General Motors Company 3/4-ton truck, driven by a four-cylinder gasoline engine. The platform has a total lift of 4 ft. 6 in., and when lowered and folded is carried at a height of only 9 ft. above the ground. When extended it reaches a maximum height of 16 ft. A notable feature is the availability of the entire interior space of the truck for carrying tools and supplies.

The body of the truck has sides of hard pine sheathed with leather and supported by 2-in. by 1 1/2-in. oak posts, spaced about 10 in. apart and forming a stiff frame. The working platform, 4 ft. 6 in. long by 3 ft. 8 in. wide, is carried on four similar posts reinforced at the corners with angle-irons. It is raised and lowered by a combination of 3-in. pulleys and 1/2-in. wire rope. The pulleys are provided with ball bearings and the moving frame members are guided by U-irons 3/4 in. deep running vertically along the side of the framing. One man can easily raise the platform to its maximum height in one minute.



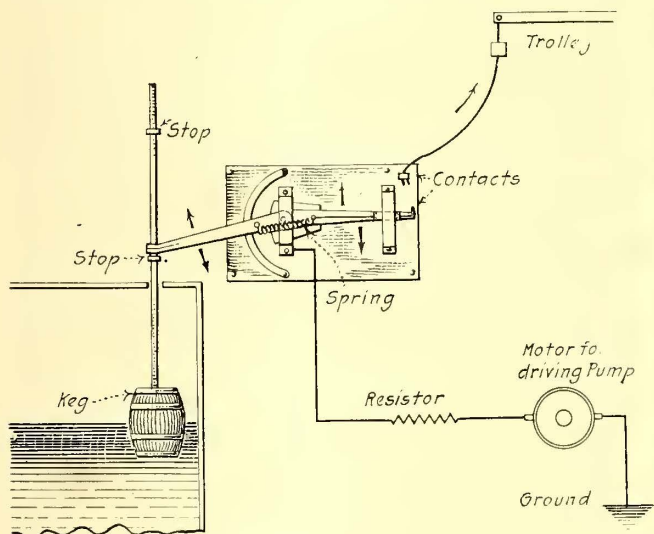
NEW BAY STATE TRUCK WITH PLATFORM RAISED



The platform is held at any desired point by a pawl which is unlocked in lowering by means of a hand lever also attached to a band brake nearly encircling the winding drum, so that the lowering is gradual and handled without danger of over-speed. The use of a central traveling pulley results in uniform application of force in raising the platform and in controlling its descent. The platform and its supporting posts weigh about 500 lb. Lockers with outside doors are provided in the sides to save trips around the end of the truck to get small tools and supplies from the interior, and the roof of the hood is provided with a hatch about 18 in. square, so that the driver can observe a man at work on the platform and, if desired, pass up tools and supplies without leaving his post. The trucks are used in signal maintenance and other light repair work as well as on the overhead system, and are capable of being operated at speeds of from 25 to 30 m.p.h. Access to the top is provided by fixed iron-ladder rungs on the side of the body, and hooks for a portable ladder are also provided.

### Home-Made Switch to Operate Sump Pump

A satisfactory method of automatically draining a low place on a right-of-way has been in operation for some time on the Inter-Urban line, Des Moines, Iowa.



APPARATUS FOR AUTOMATIC CONTROL OF MOTOR-DRIVEN SUMP PUMP

A regular bilge pump could not be installed to give satisfactory operation on account of the poor voltage regulation on both the alternating-current and direct-current circuits at this point. As a substitute an old GE-1000 motor is belt-connected to a pump, and the outfit is covered over with a small housing. The motor is cut in and out automatically by the apparatus shown in the diagram, a small shellac keg of 1 cu. ft. capacity being used as a float in the well of the sump. This operates a vertical rod equipped with two stops which actuate a lever connected by a coil spring to a knife switch which makes and breaks the motor circuit. As the keg forces the arm over past the center position, the direction of pull of the spring is changed until the lateral component is sufficient to throw the switch arm over and operate the switch.

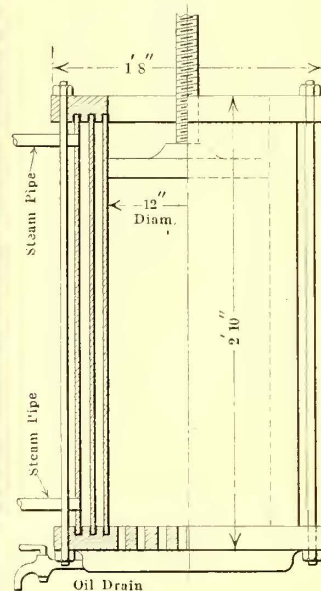
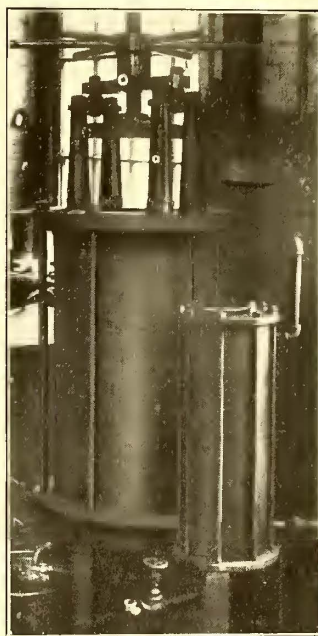
A study of the stock transfer records of the Cities Service Company, New York, N. Y., brings out the interesting fact that the company now has 11,183 stockholders. Of these 4232 or 38 per cent are women.

### Reclaiming Waste and Lubricating Oil

Steam-Jacketed Press and Filter Used in Buffalo, N. Y., Effectively Cleanse Waste and Remove Grit from Oil

In the Cold Spring shops of the International Railway, Buffalo, N. Y., a steam-jacketed waste press and a steam-jacketed oil filter are doing splendid service at a practically negligible cost. Dirty, oily waste put through the former comes out practically as good as new, the oil being melted and squeezed out. In the filter the oil is rendered more fluid by the heat of the steam jacket, and the grit and dirt brought over from the waste press are left behind in cheesecloth and perforated screen sieves. The use of this equipment produces a saving of about 65 per cent of the oil and the waste is practically all recovered.

The details of the apparatus are shown in the accompanying photograph and line drawing. The oil press consists of a cylinder and a compressing piston. The cylinder is made of three pieces of steel pipe, 30 in. in length and respectively of standard 12-in., 14-in. and 16-in. sizes. They are held in compression between two thick cast-iron heads by means of six bolts extending



STEAM-JACKETED WASTE PRESS AND STEAM-JACKETED FILTER IN SHOPS OF INTERNATIONAL RAILWAY—DETAILS OF CYLINDER OF WASTE PRESS

from head to head. The ends of the pipe fit into grooves turned in the faces of the heads, the joints being packed with lead. The outer annular space forms the steam jacket, steam pipes being tapped in at the top and the bottom respectively through the outside shell. The inner annular space is the oil well, and it connects with the bore of the cylinder by means of numerous perforations in the inside pipe.

The bottom head is perforated and below it is a galvanized iron pan which acts as an oil reservoir. A stop cock tapped into this permits the reclaimed, dirty oil to be drawn off from time to time. The cylinder is supported on strap iron legs attached to the bolts previously mentioned.

The piston is driven into the cylinder by means of a spoked nut traveling on the threaded piston stem, mounted as shown in the photograph.

The filter is of the same general construction as the cylinder of the press but is smaller. It is made of three

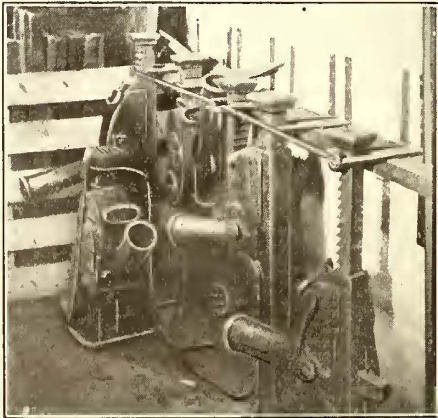


pieces of steel pipe, 6 in., 7 in. and 8 in. in diameter respectively and 24 in. long. In the center is a screen of brass wire of the finest mesh obtainable. Over the screen are two layers of cheesecloth. The screen can be removed from the filter by means of a bail.

The equipment described above is located in the boiler room at the shops where steam can be conveniently obtained. It is operated by the boiler tender whose procedure is to allow a barrel of oily waste to accumulate and then to put this quantity through the press at one time. This can be done in two or three hours, the main consumption of time being in waiting for the oily waste to become heated through.

### Rack for Jacks in Emergency Car

Crews on emergency cars are sometimes hard pressed to find a convenient space for jacks. On a new emergency car completed by the Union Street Railway, New Bedford, Mass., the jacks are carried in the rack shown in the accompanying illustration. A 4-in. x 1/2 in. wooden bar is attached to the side of the car, and the jacks are held rigidly against this bar by two rods 1/2 in. in diameter. To release the jacks it is necessary only to unhook these rods. This rack while simple in construc-



CONVENIENT RACK FOR HOLDING JACKS

tion has been found convenient and serviceable, and there is no danger of a jack's falling upon any member of the emergency car crew.

### Washing Cars Instead of Sweeping Them

The practice of flushing cars with water instead of sweeping them has been found in Des Moines, Iowa, to expedite the cleaning and to be satisfactory provided the cars are suitably prepared. The thorough cleaning of cars was formerly done by women using hot water and "Gold Dust," and one steam-heated bay of the carhouse with a capacity for twenty cars was utilized for this purpose. Under the present plan one truck of a car is run up on a hose jumper so that there is about a 4 1/2-in. difference in height in the two ends of the car. One man then goes through the car with a hose and thoroughly flushes the floor, starting from the high end, and another man follows him through with a broom and sweeps the water and dirt out of the car as quickly as possible.

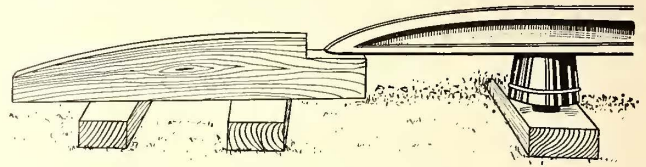
In order to make this scheme practicable, the heater ducts were raised 3 in. or 4 in. above the floor, the air compressor governor was installed in a cabinet in the front bulkhead and all obstruction possible to the free flow of the water and free movement of the broom was removed from the floor. By handling the hose care-

fully and sweeping the water out promptly the company has experienced no trouble from water leaking through the trapdoors into the motors or getting into the air governor.

The same scheme is used in washing the car exterior, using the hose and a brush, and washing with plain water. By this means it has been possible to save 80 per cent of the time formerly required to wash a car, and there are sixteen to twenty cars washed per day on the Des Moines property.

### A Guard for Third-Rail Approaches

Trouble is sometimes caused by faulty third-rail shoes getting below end approaches and thus breaking the insulators and tearing up the rail. The accompanying sketch shows how this is prevented on one railway property by a wooden block placed in front of a third-



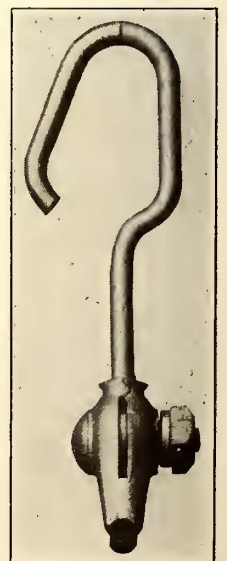
GUARD TO PREVENT THIRD-RAIL SHOES FROM GETTING UNDER THE RAIL

rail approach and securely nailed to the ties. Sufficient clearance is left between the ends of the block and the rail to allow for the expansion of the latter. It has been found that no real harm results if the block accidentally comes in contact with the rail since the leakage is small even in wet weather.

### A Catenary Hanger with But Five Parts

The Westinghouse Electric & Manufacturing Company has placed on the market the hanger illustrated on page 380 of the issue of the *ELECTRIC RAILWAY JOURNAL* for March 3, 1917. As stated in the article describing the construction of the new Buffalo-Niagara Falls high-speed line this hanger is being used on that line. It is to be known as type NF and contains five parts; bolt, nut, washer, hanger rod and clamp.

The hanger rod consists of a 3/8-in. steel rod with an oblong loop at the upper end for attaching to the messenger cable. After the hanger is in place this loop can be closed very easily. At the lower end of the hanger rod is a loop with a round opening for connecting to the clamping bolt. The clamp is made in duplicate parts of malleable iron. In the design the lips of the clamp were made with minimum thickness to secure satisfactory operation with wheel trolleys, and the nuts and spring washer were so located that when the groove of the trolley wheel is worn to the maximum depth there will be no tendency for the flange to strike the bolt. The hanger is suitable for standard grooved-section trolley wire from No. 00 to No. 0000, and its average weight for 150-ft. spans is 1 lb. All parts of the hanger are sherardized.

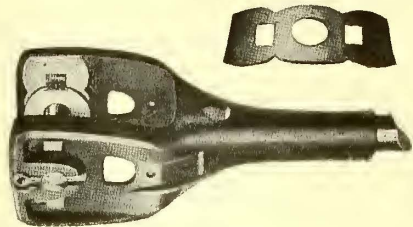


FIVE-PIECE C A T E - N A R Y H A N G E R



## New Contact Spring for Trolley Harps

The accompanying illustration shows the Kalamazoo trolley harp and the new design of springs with which they are being equipped by the makers, the Star Brass Works, Kalamazoo, Mich. Since the springs are not



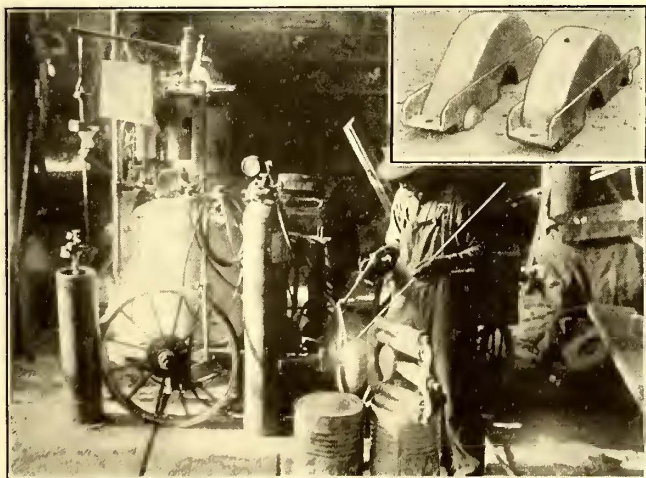
CONTACT SPRING FOR TROLLEY HARPS

riveted to the harp, renewals can be readily made without removing the pole from the car. The contact surfaces are large, thus giving a good current capacity and adding to the life of the pins and bushings.

## Oxy-Acetylene Welding Practice in Des Moines Shop

Different uses to which oxy-acetylene gas can be put in an electric railway shop are constantly being discovered by M. M. Lloyd, master mechanic Des Moines (Iowa) City Railway. On the new low-floor cars in Des Moines the gear cases have a clearance of only 2 11/16 in., and hence they often strike a stone or other obstruction on the roadway. This may make a dent in the case, and then the gear teeth cut a hole. The accompanying illustration shows a gear case with such a hole in it and one in which a similar hole has been quickly and easily repaired by welding a patch over the hole.

Worn center bearings on Westinghouse D2EG and D3EG air compressors are built up by the welding process. The babbitt is first taken out and the bearing filled in with metal to a depth of 1/2 in. or 5/8 in., after which the compressor case is placed in a drill press and the bearing housing bored out and fitted with a brass bearing. Worn journal side-plate bearings are also built up. The bearing way is filled and the journal is



PORTABLE ACETYLENE GENERATOR IN DES MOINES SHOP; AT TOP, PRESSED-STEEL GEAR CASES, DAMAGED AND REPAIRED

put on a planer and squared up, thus renewing the journal for a long period of service. The maintenance on the door-operating handles on a number of the cars was materially reduced by welding. These handles were previously riveted or held to the vertical rods with set

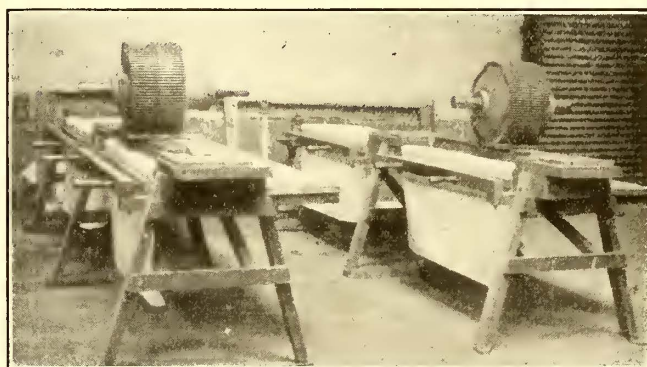
screws, and trouble was constantly experienced by their breaking off. To remedy this they were permanently welded in position.

The oxy-acetylene cutting frame was used to good advantage in a case in which it became necessary in the reconstruction of an electric locomotive to cut the door in the operating cab 5 in. wider. This meant the cutting of the 1/4-in. steel side sheet through a vertical distance of 6 ft., and it was done readily with the acetylene flame, whereas it would have been a considerable problem to accomplish cutting by mechanical means.

The portable oxy-acetylene generator shown in the accompanying illustration is employed. Whenever a heavy casting or a particularly difficult piece of welding is to be done, it has been the practice to preheat the piece by the use of a home-made coal-oil burner connected with the shop air-pressure system.

## Curtain Printing Press Used at Nashville

At the shops of the Nashville Railway & Light Company, Nashville, Tenn., of which George W. Swint is master mechanic, a printing press has been built for lettering destination sign curtains. By the use of this



FOUR-SECTION PRESS FOR PRINTING DESTINATION SIGN CURTAINS

press the cost of the work is said to be reduced and the results obtained are uniform.

As shown by the illustration, the outfit includes four sections alike in arrangement. Each section consists of a narrow table somewhat longer than the width of a sign curtain. The sides of the table are equipped with clamps so that the cloth to be printed may be stretched over the bed of the table and held tightly in place. The signs are printed on sections of cloth each 44 in. long, and a wooden silhouette letter is used. The letters are cut out of white pine blocks and mounted on boards of uniform length so that they may be stored in racks near the press.

A combination of printers' ink and drop black is used for printing. When the type has been inked and laid in place on the cloth, an old armature core is rolled over the back of the type in order to press it firmly against the cloth. By means of the four sections of this press four similar curtains are printed at one time, the sets of type being moved from one section to the other as the cloth is moved along in each of the presses.

The largest smokestack in the Illinois River valley is being erected by the Illinois Traction System at La Salle, Ill., to serve the rebuilt power plant of the Northern Illinois Light & Power Company. This stack will be 265 ft. high and 16 ft. in diameter at the base. It is being constructed of steel, with brick lining.



# News of Electric Railways

Traffic and Transportation

Financial and Corporate

Personal Mention

Construction News

## Dallas Charter Amendments Upheld

Court of Civil Appeals Upholds Election at Which Charter Was Amended, Making Possible Transit Settlement

The Court of Civil Appeals of the Fifth District of Texas has upheld the validity of the city election of April 4, 1916, at which the charter of the city of Dallas was amended to authorize the granting of indeterminate franchises and the model service-at-cost franchises were approved. As a result J. F. Strickland and C. W. Hobson are free to accept the electric light and traction franchises voted by the city of Dallas, Tex., on April 3, 1917. Messrs. Strickland and Hobson have ninety days from April 3 under the terms of the franchises in which to accept them. In view of war conditions and pending settlement of the injunction proceedings against the enforcement by the city of the initiated ordinances adopted at the last city election, Messrs. Strickland and Hobson say they may ask the city for an extension beyond the ninety-day period.

The contention of attorneys for the traction and lighting interests is that at least one of the initiated ordinances is in conflict with the terms of the franchises in that it prohibits the raising of rates without the approval of a majority of the voters of the city, whereas the franchises provide for increases in rates under the London sliding scale. Another ordinance providing for the installation of safety devices is held to be covered in the franchises as granted.

The traction and lighting franchises are affected by the charter amendments in that the amendments provide for a service-at-cost plan in lieu of the 4 per cent gross income tax, as provided in the charter. By being forced to pay the 4 per cent tax, the grantees claimed they could not have accepted the franchises, which provide that all profits of more than 8 per cent shall be used in reducing fares.

The contest of the election on April 4, 1916, attacked the authority under which that election was held and also sought to have it declared illegal because of certain markings on the ballot appearing as explanations of the amendments and franchises to be voted on. The court found no grounds for contest of the election and declared it legally conducted. If the decision had been in favor of the contestants the authority for holding the election would have been lacking and the results of the election void. This would have voided the charter amendments and the franchises.

## Senate Passes Commission Bill

New York State Body Favors Measure Based on Recommendations of Chairman of Legislative Investigating Committee

The Senate of the State of New York on May 1 passed the bill introduced by Senator George F. Thompson of Niagara providing for the reorganization of the Public Service Commissions of the State. The bill was drafted as a result of the investigation of the commissions made by the legislative committee of which Senator Thompson was chairman. Under the provisions of the Thompson bill the present Public Service Commissions would be divided into three divisions, namely, one so-called hearing division composed of three commissioners to conduct hearings and make decisions and two regulatory divisions each made up of three commissioners, one for New York City and one for the rest of the State. The headquarters of the hearing division and the up-State regulatory division would be at the State Capitol, while the activities of the public service corporations in Greater New York would be supervised as at present

from headquarters in New York City. The powers of supervision over the construction of new subways exercised at present by the Public Service Commission for the First District in Greater New York would under the Thompson bill be turned over to a rapid transit commissioner, after the present work has been completed. The appointment of the rapid transit commissioner is placed with the Governor. This provision has been assailed as a violation of the home rule principle. The measure will now go before the Assembly. Should it be passed there and then be approved by the Governor, the Public Service Commissions as at present constituted would be succeeded by the new order of things on June 30.

## Union Terminal for Los Angeles

Pacific Electric Railway, Southern Pacific Company and Salt Lake Railroad to Combine Entrances to City

The Southern Pacific Company, the Salt Lake Railroad and the Pacific Electric Railway, it is announced, will in a few days begin work on the reconstruction of the entire trackage layout on which they enter the heart of Los Angeles, Cal. Briefly summarized, the plans are as follows:

1. Merging of the Southern Pacific and Salt Lake station accommodations at the new Southern Pacific station, Fifth Street and Central Avenue.
2. Abandonment of Alameda Street by the Southern Pacific, except for local switching to industrial establishments.
3. Joint use by the Southern Pacific and the Pacific Electric of the Salt Lake Railroad right-of-way on the east bank of the Los Angeles River.
4. The construction of a bridge across the Los Angeles River and an elevated track from the Los Angeles River to the rear of the Pacific Electric station at Sixth and Main Streets, with branches connecting with the Arcade station and the Wholesale Terminal Company's \$10,000,000 establishment.
5. Reconstruction of the freight yards on the east side of the river and establishment of a new industrial district, where five big manufacturing plants, including a cotton mill, steel mill and other industries will be located.

The objects which are sought to be achieved are:

1. To effect a virtual union station arrangement; permanently anchoring the railroad stations, or union terminal, in a central location.
2. To eliminate as far as possible all grade crossings in the heart of the city, and to eliminate from the congested west side of the river the freight and passenger traffic, and to pave the way for a union freight classification and switching yards on the east side of the river.
3. To provide a shorter entrance without grade crossings to the heart of the city for both the steam roads and the Pacific Electric Railway high-speed trains.

Under the proposed arrangement the Pacific Electric Railway will bring its trains into Los Angeles by way of the Salt Lake Railroad right-of-way, the inside portion of which will be leased for ninety-nine years, and will cross the Los Angeles River between Sixth and Seventh Streets, on an elevated track, which will be continued from the river up through the middle of the block, between Sixth and Seventh Streets, to connect with the present elevated structures at San Pedro Street. The cost of the new work has not been made public. It is expected that the new route will permit the Pacific Electric Railway to reduce the running time over its line between Los Angeles and Pasadena by twelve minutes.



## Santa Fé Electrification Rumors

Edward P. Ripley, president of the Santa Fé system, was in San Francisco, Cal., recently as the head of a party of directors and officials of the company. During his stay there the question of possible electrification of some of the lines was raised. Mr. Ripley is reported to have said:

"The time for any definite statements is not yet ripe. Nothing has been offered us as yet which would give us an opportunity to go ahead with any actual plans. It is true, however, that overtures have been made, and if we can see our way clear profitably to do so we will electrify divisions of the Santa Fé lines."

One of the party stated that a plan had been submitted to dam the Colorado River 21 miles north of Peach Springs, and to generate electricity from that source. This gentleman is reported to have said:

"It is natural that with the ever increasing price of oil we are figuring on some way out. Electrification seems to be the only way. But the cost of electrifying has always been so enormous that the railroads could not see their way clear to pay for the investment in a reasonable time. But if someone can make us a proposition whereby the extraordinarily low cost of power would offset the cost of equipment the situation would be different."

With President Ripley were W. D. Hines, president of the board of directors; A. D. Juillard, director; W. B. Storey and W. E. Hodges, vice-presidents; A. G. Wells, general manager, and Ford Harvey.

## Seattle Conferences Progressing

At a conference between representatives of the city of Seattle, Wash., and the Puget Sound Traction, Light & Power Company, held on April 25, virtual agreement was reached that an exchange of power should take place between the city's municipal plant and the plants of the company, in case of a break-down in either system. A. W. Leonard, president of the company, promised to submit a schedule of rates for such emergency service as soon as they could be ascertained.

A proposal to operate cars of the Puget Sound Traction, Light & Power Company over Division "A" of the municipal railway system, from the south end of the Fremont Bridge to Third Avenue and Pine Street, in order to relieve the congestion of Westlake Avenue, and a proposal to construct a new line on Stone Way to accommodate the Seattle-Everett interurban cars, were the outstanding features of the conference. Six car lines and the interurban road are now operated over Westlake Avenue, as the only route to the district north of the Fremont Bridge, and by the utilization of Dexter Avenue, on which city cars are now operated, the congestion on Westlake Avenue would be relieved, and two direct avenues of traffic between the great district north of the canal and the downtown district would be made available. Mr. Leonard of the company expressed a willingness to consider the establishment of the proposed line on Stoneway for the accommodation of the interurban, and also promised to look into the maintenance of a new line to serve the district lying east of Woodland Park and between there and the Green Lake and Meridian lines.

Reconstruction of the Fremont-Ballard and Sixth Avenue Northwest lines on Leary Avenue, in order to avoid a multiplicity of right-angle curves in the existing routes, was discussed. A. L. Kempster, manager of the Puget Sound Company, announced that the company would be glad to make the change. The same attitude was expressed relative to the reconstruction of the Fauntleroy Avenue line on Avalon Way and Thirty-fifth Avenue Southwest, in order to eliminate dangerous crossings and the operation of cars over heavy grades.

Before the conferences being held between the city and the company are concluded, Councilman Erickson will propose a partial reconstruction of the street railway system in order to serve the industrial district in the vicinity of Harbor Island and the Duwamish Waterway, and lessen the congestion on downtown business streets. The plan has been partially worked out. It includes among other things a ferry and the building of street railway lines to carry passengers who will utilize the water routes.

## Increase in Wages in Bangor

### Twenty Per Cent Fund Established—Co-operative Committee Organization Launched

The Bangor Railway & Electric Company, Bangor, Me., has adopted the so-called 20 per cent fund as a basis of payment of wages to its trainmen. During the ten years ended with 1915 the company paid 17.7 per cent of its gross passenger earnings in wages to the motormen and conductors in the passenger service alone. The officers of the company have studied the subject and believe that the amount the company is able to pay for wages is limited to 20 per cent of the gross passenger earnings. They have therefore decided to use 20 per cent of the gross passenger earnings in payment of the wages of conductors and motormen, but in no event will the rates of wages be lower than the following: First year, 25 cents an hour; second and third year, 26 cents an hour; fourth year and thereafter, 27 cents an hour. As just stated, these are the minimum wages to be paid. Starting on May 1 the company began to set aside in a separate fund 20 per cent of its gross passenger earnings, and all payments of passenger conductors' and motormen's wages will be made from this fund. Any accumulations in the fund will be used to increase rates of pay as fast as the condition of the fund justifies. The minimum wage of 25 cents as now fixed is an increase of 1½ cents an hour over that previously in force.

The company has also proposed to the men the formation of a co-operative committee which shall be composed of two motormen and two conductors selected by them from their own ranks, the superintendent of transportation and the assistant general manager or such other representative of the general manager as he shall appoint. The representative of the general manager is to be chairman of the committee. This committee is to meet at least once a month to discuss ways and means to improve the service and the working conditions and wages. It is not intended to abridge the control of the officers of the company over employees or the management, but through this committee there will be an opportunity for the representatives of the men to keep themselves fully informed as to the measures which the company takes from time to time to maintain the discipline necessary to a safe and efficient service. The representatives of the men upon this committee are to have the right to appeal to the highest operating official of the company should they at any time have reason to doubt the fairness of any decision of the chairman of the committee.

## Strike on Indiana Line

As a result of the work of union labor organizers the conductors and motormen of the South Bend city lines of the Chicago, South Bend & Northern Indiana Railway went on strike on April 29. About 117 men are affected by the strike order. During Sunday only ten cars were operated by the company and no attempt was made to operate after dark. Demands were made upon the company for increased wages, shorter working hours, recognition of the union, etc. Trainmen on the interurban lines of the company, operating from South Bend to Elkhart, Goshen, Laporte and Michigan City, Ind., and Niles, Berrien Springs and St. Joseph, Mich., refused to join the union of the city trainmen, but presented a petition as individuals for an increase of wages on a sliding scale from 27 to 35 cents an hour. There was no interruption in the interurban service.

The company agreed to meet a committee of the interurban men and consider their petition, but F. I. Hardy, general manager of the company, refused to consider any demands presented by the union. A proposition was, however, made to the striking employees that their demands for increased wages and shorter working hours should be presented by them as employees of the company, and that they should be considered by a board of arbitration selected by the Public Service Commission of Indiana. Fourteen cars were in operation on the South Bend city lines on April 30, and the interurban service was still uninterrupted. A mass meeting and parade of all the labor unions was held on the night of May 1 in an effort to secure public sympathy in the strike.



## Washington Inquiry Started

### Senate Appoints a Committee to Inquire Into Recent Strike—Company's Brief Submitted

The machinery of the United States Senate committee which will inquire into the strike of the employees of the Washington Railway & Electric Company has been set in motion. The committee is composed of five Senators. They are Messrs. Hughes, Pittman, King, Jones, and Johnson of California. Mr. Hughes is chairman. While the committee organized on April 22 the pressure of the other duties of the Senators in connection with the vast war work under way in Washington tended to delay materially the progress of the inquiry.

The company was quick to respond to the summons of the committee. It filed with that body on April 30 a general and sweeping denial of the alleged facts in the complaint of the strikers. The company denied that it was guilty of bad faith in submitting an individual contract to its employees. It also denied that it was trying to break up the organization of the employees, and that it secretly imported strike breakers while appearing to be willing to discuss a new agreement with the men. The reply went at length into the history of the company. According to the company dissatisfaction among the employees followed the formation of the local division of the Amalgamated Association. It is pointed out that the strike of 1916 was settled through negotiations between the company and a committee representing all employees and not merely union men. That the company refused to deal with the union was reiterated.

A brief in rebuttal to that filed by the company, it is expected, will be filed within a few days by James H. Vahey, counsel of the Amalgamated Association. As soon as the answer is received by the committee arrangements will be made for hearing the arguments.

Although the cases of the fifteen strikers charged with wrecking a car of the Anacostia line last month are still pending in Police Court, it is not expected they will be heard there. It is believed the grand jury will investigate the charge.

## Obstructionist in Cincinnati

### Injunction Sought to Prevent Issue of \$6,000,000 of Bonds for Rapid Transit Construction

On April 26 Davis S. Oliver, acting as a taxpayer, amended his petition filed in Common Pleas Court in Cincinnati, Ohio, on March 31, and now seeks an injunction against the issuance of \$6,000,000 of bonds or any part of the sum for the construction of the rapid-transit loop, and against the entering into any contracts for the construction of the loop under the terms of the ordinance passed by the Council and approved by the voters. The Cincinnati Street Railway, the Cincinnati Traction Company and the Ohio Traction Company are made party defendants with the city and the Rapid Transit Commission in the amended petition. Mr. Oliver argues that any agreement in accordance with the terms of the ordinance will result in the misapplication of the city's funds and the abuse of corporate power. He further claims that the law under which the ordinance was passed is unconstitutional.

It is possible that no street railway commissioner will be appointed until January, 1918, and the Council may not take action for some time yet in regard to salaries for the members of the Rapid Transit Commission, as provided by a law enacted last winter. Until bonds are sold, no funds will be available for this purpose. The members of the commission will in all probability manage the preliminaries through the remainder of this year without the aid of a street railway commissioner. Chief Engineer Krug estimates that the \$40,000 remaining of the original appropriation of \$100,000 will be sufficient to pay the engineering expenses for this year. The Council will undertake no legislation until requested to do so by the Rapid Transit Commission or the Mayor. A question has been raised as to just when the ordinance takes effect, but the consensus of opinion seems to be that it became effective when approved by the voters.

## Mr. Reynolds' Memory Honored

### New England Street Railway Club and Massachusetts Street Railway Association Pay Tribute to Deceased Bay State Official

A most unusual tribute to the memory of a street railway man occurred at the Hotel Somerset, Boston, on the evening of April 26, when members of the New England Street Railway Club and the Massachusetts Street Railway Association assembled in joint meeting in commemoration of Henry E. Reynolds, assistant general manager of the Bay State Street Railway, who died last month. About 200 members attended. Testimony to Mr. Reynolds' sterling worth, ability and capacity for friendship was borne by Clark V. Wood, president of the Springfield (Mass.) Street Railway; Matthew C. Brush, president of the Boston Elevated Railway; Robert S. Goff, vice-president and general manager of the Bay State Street Railway; Bentley W. Warren, counsel for the Massachusetts Street Railway Association, and P. F. Sullivan, president of the Bay State Street Railway. Appropriate resolutions taking Mr. Reynolds' life as an inspiration for future co-operation among workers in the street railway industry in New England were presented by a committee consisting of C. S. Clark, A. E. Potter and E. C. Foster. These embodied the expression of the ideals of a life of service and were unanimously adopted. The meeting was the first joint gathering in the history of the two organizations.

## M. M. and M. C. B. Convention Abandoned

At a meeting on April 30 the officers of the American Master Mechanics' and Master Car Builders' Associations decided not to hold any convention this year. The abandonment of the exhibit feature was mentioned in the issue of this paper for April 21.

## Bay Region Labor Troubles

An arbitration of the Key Route strike, as reported on page 761 of the *ELECTRIC RAILWAY JOURNAL* for April 21, resulted in allowing the men the hour schedule which they had demanded and which calls for twelve hours on and twenty-four hours off. This will increase the company's cost of operation about \$40,000 annually, and to cover this increase the company is applying to the State Railroad Commission for permission to increase fares.

Later the engineers and deck officers of the ferryboats operated on San Francisco Bay by the Northwestern Pacific Railway and the Southern Pacific Railway demanded the same working hours that have been granted Key Route employees. No agreement between companies and employees could be reached on this score and the men announced that they would resign in a body at the close of business on Saturday night, April 28. Both railways therefore announced that the regular ferry service would be discontinued beginning Sunday morning. This threatened strike was averted at the last moment, however, by allowing the demands for twelve hours on and twenty-four hours off.

## Coal a Problem in Cleveland

### Cost of Fuel to Cleveland Railway \$50,000 a Month More Than Formerly

Through Street Railway Commissioner Fielder Sanders, President J. J. Stanley of the Cleveland (Ohio) Railway presented a communication to the City Council on April 30 in which he called attention to the fact that the company's coal contracts had expired and that monthly contracts had been made at the best prices obtainable. Coal will cost the company practically \$50,000 more a month than in the past and it will be necessary to increase the operating allowance sufficiently to cover this amount. Mr. Stanley estimated this increase at 1.16 cents per car-mile. It is not known just what the company is paying per ton for fuel on its temporary contracts.



**Rumored Deal for Leavenworth-Topeka Line.**—It is reported that Eastern capitalists are planning to take over the Leavenworth & Topeka Railway, the 47-mile steam line between Leavenworth and Topeka, Kan., which at various times has been reported about to be electrified. The line was operated by the Union Pacific and the Santa Fe, but is now in receivers' hands.

**Increase in Pay on Inland Empire System.**—E. E. Lillie, superintendent of the Spokane (Wash.) Traction Company, which is controlled by the Spokane & Inland Empire Railroad, recently announced that conductors and motormen of the Inland Empire system, including the city lines of the company, will receive an increase in pay. The amount of the raise will not be made public, however, until accountants, who now are at work, have submitted a report.

**More Men Needed in Cleveland.**—Fielder Sanders, street railway commissioner of Cleveland, Ohio, stated on April 19 that a number of cars had been taken off the lines on the east side of the city during the evening rush because men could not be secured to operate them. Mr. Sanders estimated that 150 additional men were needed, but Paul Wilson, secretary to President J. J. Stanley of the railway, said that the service could be greatly improved with the addition of fifty men.

**Openings with Public Service Commission.**—The Civil Service Commission of the State of New York has issued a circular describing examinations which will be held on June 2 for various positions on the Public Service Commission and other State departments. These include a junior electrical engineer for the Public Service Commission, First District, salary \$901 to \$1,200 a year, a special track work draftsman for the same commission, salary \$1,501 to \$1,800 a year, and a statistician in the State Department of Labor, salary \$1,200 to \$1,560 a year.

**Increase in Wages in Spokane.**—A material increase in the pay of trainmen of the city and interurban system has been authorized by the Washington Water Power Company, Spokane, Wash. The increase ranges from 2 to 6 cents an hour. It provides that men on the city system receive 28 cents an hour for the first six-month period, 29 cents for the second six months, 30 cents for the third six months, and 31 cents for the fourth six months. From that time to the twelfth year they receive 32 cents; for the thirteenth, fourteenth and fifteenth years, 33 cents, and after fifteen years, 35 cents.

**Attorneys to Confer at Toledo.**—It was announced on April 30 that D. C. Bailey, attorney for H. L. Doherty & Company, would be in Toledo during the week commencing April 30 to confer with the attorneys of the Toledo Street Railway Commission in regard to the wording of certain clauses in the community plan ordinance. At the last conference between members of the commission and Mr. Doherty the language of these clauses was left to Attorneys Johnson Thurston and Ralph Emery to arrange. Mr. Doherty later wrote that the forms suggested did not seem to cover the agreements reached.

**Wage Negotiations at East St. Louis.**—Negotiations are being conducted between the East St. Louis & Suburban Railway, East St. Louis, Ill., and its trainmen over the working conditions of a new contract to take the place of one which expired on May 1. The company says frankly that under present conditions it is unable to make an increase in wages sufficient to equal the increased cost of living, but has offered a considerable increase, as well as a bonus for any reduction made in the accident account over the average percentage for the four years ended June 30, 1916. It is expected that an agreement will be reached.

**Motor Buses Proposed for Chicago.**—The Chicago Stage Company, an Illinois corporation, backed by the New York Transportation Company, which owns the Fifth Avenue Coach Company, has made application to the Chicago authorities for about 60 miles of motor-bus routes over the boulevards and park systems there. The officers of the Chicago company are Richard W. Meade, president; Samuel E. Morrow, secretary, and George L. Willems, treasurer. These gentlemen occupy similar positions with the New York Transportation Company. In making application in Chicago the company has specified a 10-cent fare, has asked

for a twenty-year franchise, and has agreed to guarantee minimum payments to the municipal authorities of more than \$2,700,000. This is along the lines of the recent proposals made by the Fifth Avenue Coach Company for additional routes in New York City.

**Rhode Island Committee Organized.**—Zenas W. Bliss, chairman of the Rhode Island Tax Commission, has been made chairman of the special committee created by the General Assembly to investigate the affairs of the Rhode Island Company and offer financial assistance in the way of fare changes, if such changes are found to be just. The commission has notified the Rhode Island Company of its organization, and has requested the assignment of a date for a preliminary meeting, to map out the work. The other commissioners are William C. Bliss of the Public Utilities Commission and George H. Newhall, Bank Commissioner.

**Toronto Men Request Wage Increase.**—At a meeting of the Toronto (Ont.) Railway employees on April 28, it was decided to make a demand upon the company for an increase in wages of 10 cents an hour all around. The present agreement expires on June 15. Under the new schedule, a sliding scale, the union will ask for an increase from 26 to 36 cents an hour for the first year; 28 to 38 cents for the second year, and from 30 to 40 cents for the third year and thereafter. The men will urge a more uniform system of working hours, and they will also ask for a revision of several other clauses in the present working agreement.

**Sympathy Strike in New Orleans Plants.**—The employees of the power stations of the New Orleans Railway & Light Company, New Orleans, La., went on strike recently and hampered the company considerably for a time in rendering continuous service. The men aligned themselves in sympathy with their chief, Edward B. McKinney, superintendent of power of the company, in a personal controversy between him and the management, but returned to work after the issues in dispute had been explained to them at length by the company. Mr. McKinney has since been succeeded in his position by J. J. Chisholm, formerly superintendent of power of the Tennessee Coal & Iron Company, Birmingham, Ala.

**Service Restored in Lincoln.**—Conditions were practically normal again on April 30 with the Lincoln (Neb.) Traction Company, the trainmen of which went on strike on April 18. The company succeeded in operating about 55 per cent of its equipment the first day of the strike and has bettered this mark every day since then. By April 30 the full schedule had been established for daylight service. Since the third night of the strike there has also been a limited service after dark. New men are being recruited rapidly and the company expected to return to the normal eighteen-hour service by the latter part of the week ended May 5. The company is determined in its course not to recognize any union, and no union employees will be allowed to remain in its employ.

**West Side Measure Passed.**—The Green bill providing for an investigation of the proposed west side improvement contract between New York City and the New York Central Railroad, has been passed by the Assembly. The Green measure and another bill drafted by the Public Service Commission have been agreed upon as a solution of the west side problem. The Green bill provides for a commission of seven members to report its findings to the Legislature by Feb. 1, 1918. The Public Service Commission bill provides for concurrent action on the contract by the Board of Estimate and the Public Service Commission, and authorizes the commission to compel the railroad to execute its improvement plans in case an agreement is not reached with the city by Dec. 1, 1917.

**Trains of Steel and Wood Cars Opposed.**—The danger of using wood trail cars between steel motor cars was emphasized recently in a report made by Clifton W. Wilder, electrical engineer of the Public Service Commission for the First District of New York, at a hearing held by the commission in regard to the joint operation on the Rockaway Beach line via Chestnut Street junction by the Long Island Railroad and the New York Consolidated Railroad. The



question before the commission is whether or not the proposed equipment to be used on the line "will be unsafe, improper or inadequate." The Long Island Railroad stated to the commission that the maximum service on Sunday would require it to furnish as its proportion of the equipment twenty trail and forty motor cars. The company has no wood motor cars and steel trail cars available. Mr. Wilder's opinion is that the operation of mixed wood and steel cars is extremely dangerous and offers a serious fire hazard.

**Suit brought in Seattle Case.**—The city of Seattle, Wash., has brought suit in the King County Superior Court against the Puget Sound Traction, Light & Power Company to recover \$64,387, representing 2 per cent of the gross earnings of the street railway system during 1916. This matter, as well as the paving of rights-of-way, has been before the courts for approximately two years, ever since the company appealed to the Public Service Commission to be relieved of certain of its franchise obligations. The Public Service Commission has not yet acted upon the petition, and since then the company has paid the gross earnings tax under protest, and has planked rights-of-way instead of paving them. On Jan. 15 last the company tendered the city of Seattle a check for \$64,387, to be considered as paid under protest, with the further stipulation that the check was to be returned unless the city abandoned its plan to bring suit against the company to enforce that provision in the street railway franchises requiring the company to pave rights-of-way with the same material and at the same time as the remainder of the street is paved. The Council directed that the check be returned, and the suit to enforce the paving obligation was brought before the Superior Court.

## Programs of Association Meetings

### Arkansas Association of Public Utility Operators

The tenth annual convention of the Arkansas Association of Public Utility Operators will be held in Pine Bluff, Ark., on May 16, 17 and 18. The program of papers is now being completed.

### American Railway Association

In view of the present national crisis and the earnest desire of the railroads to render the greatest service and to co-operate heartily with the government in the conduct of the war, the executive committee of the American Railway Association has postponed indefinitely the spring session of the association, which was to have been held on May 16.

### Pennsylvania Street Railway Association

The executive committee of the Pennsylvania Street Railway Association has resolved that because of the war there will be only a one-day meeting of the association at this time. It will be held on May 11 at the Harrisburg Club, Harrisburg, beginning at 11 o'clock. Luncheon will be served at 2 o'clock and instead of a set program, after routine business of the association, the following "war time policies" will be discussed in an informal way:

1. In what specific ways can the street railway interests of Pennsylvania best serve the State and the nation? (a) as companies, (b) as individuals?

2. What policies have been adopted relative to (a) protection of power plants, bridges and other property? (b) registering of employees as to nationality and loyalty? (c) contributions to dependents of employees called to active service? (d) transportation of troops and filing of tariffs in connection with same? (e) transportation of individual soldiers and sailors in uniform? (f) possibilities of employing women in train service? (g) carrying posters in and on cars to encourage enlistment?

The subject "War Time Economies" will also be discussed. The object will be to secure suggestions as to practical methods of meeting present material and labor conditions, such as substitution of materials, operating economies, etc.

# Financial and Corporate

## Annual Report

### Cleveland Railway

The income statement of the Cleveland (Ohio) Railway for the year ended Dec. 31, 1916, follows:

I.—BASED ON ORDINANCE ALLOWANCES		Cents per Car-Mile
Operating revenues:		
Revenue from transportation	\$9,428,091	....
Revenue from other operations	93,464	....
Total operating revenues	\$9,521,555	28.11
Expense allowances:		
Maintenance	\$1,673,548	4.94
Operating	4,492,732	13.27
Total expense allowances	\$6,166,280	18.21
Net operating revenue	\$3,355,275	9.90
Non-operating income	75,750	0.22
Gross income	\$3,431,025	10.12
Taxes	579,423	1.71
Net income	\$2,851,602	8.41
Interest	1,912,815	5.65
Surplus	\$938,787	2.76
Special allowances	936,000	2.76
Net surplus	\$2,787	....

II.—BASED ON ACTUAL EXPENSES		
Operating revenues	\$9,521,555	28.11
Actual expenses:		
Maintenance of way and structures	\$1,062,379	3.14
Maintenance of equipment except power plant	808,060	2.38
Maintenance of power plant	49,254	0.15
Total maintenance	\$1,919,693	5.67
Power	\$811,594	2.40
Conducting transportation	2,824,852	8.34
Traffic	500	....
General and miscellaneous	1,103,793	3.26
Total operating	\$4,740,739	14.00
Total expenses	\$6,500,433	19.67
Net operating revenue	\$2,861,122	8.44
Non-operating income	75,751	0.22
Gross income	\$2,936,873	8.66
Taxes	579,423	1.71
Net income	\$2,357,450	6.95
Interest	1,912,815	5.65
Surplus	\$444,635	1.30
Obsolete property	384,000	1.13
Net surplus	\$60,635	0.17

The increase in gross receipts in 1916 over 1915 amounted to \$1,054,993 or 12.35 per cent. This gain was made up as follows: Revenue from transportation, 12.42 per cent; revenue from other operations, 14.43 per cent, and non-operating income, 2.60 per cent. The passenger revenue increased 12.53 per cent to \$9,289,899; the chartered-car revenue, 6.92 per cent to \$10,119; the express revenue, 24.01 per cent to \$43,357, and the milk revenue, 15.23 per cent to \$17,772. Other transportation revenues showed decreases.

The increase in receipts per car-mile during 1916 was 7½ per cent. This increase was not due to an increase in rate of fare or in rate of speed, but to the fact that the percentage of increase in the number of passengers was greater than in the number of car-miles. The increase in service, measured in car-miles, was but 4½ per cent. The increase in the number of rides was more than 12½ per cent.

The rate of fare in effect in both years was rate "e" of the Tayler franchise, "3 cents cash fare, 1 cent transfer, no rebate." The 5-cent fares to some of the suburbs—Lakewood, Cleveland Heights and others—brought the average fare per passenger to 3.417 cents. The ratio of transfers to fares in 1914 was 40 per cent, in 1915 it was 37½ per cent, and in 1916 it was 37.12 per cent. The maximum fare permitted by the Tayler franchise is "4 cents cash fare, seven tickets for 25 cents, 1 cent transfer, no rebate." If this



maximum rate should come into effect, and if the ratio of transfers to fares should then be the same as it was in 1916, the average fare would be about 4 cents. The difference, therefore, between the maximum rate and the present rate is 0.583 cent, which is 17 per cent more than the present rate.

In discussing service, the annual report states that the present schedules on nearly all the lines require the operation during the evening rush hours of many more cars than twice the number operated per hour on the base table, and, under a franchise provision, the company is entitled to, and expects to ask, an additional allowance for operating expenses. The allowance, however, if made by the Council or awarded by arbitration, will not affect the actual cost of operation or increase the company's earnings either in gross or per car-mile. An increase in the allowance, however, it is said, will probably necessitate an increase in the rate of fare.

The franchise thus furnishes reasons that should appeal to the city to co-operate with the company to bring about more economical operation by inducing passengers to vary their times of travel.

The expenditures in 1916 for injuries and damages amounted to \$570,856, an increase of \$195,151 over the expenditures of 1915. The price of injuries has increased at equal pace with the prices of labor and commodities. It is estimated that it will cost about \$400,000 to adjust and settle all pending suits and claims for damages. The taxes of 1916 were 18.72 per cent higher than those of 1915. The increase was due largely to the fact that the State Tax Commission fixed a higher valuation by \$2,749,920 than was fixed for 1915. The tax rate in 1915 was \$1.53, and in 1916 it was \$1.55. The betterment expenditures in 1916 totaled \$858,434.

On Dec. 31, 1916, there was a balance of \$545,438 in the interest fund, or \$45,438 more than the amount placed in the fund originally under the provisions of the Taylor ordinance. This is accounted for as follows: Profits (earnings in excess of allowances, taxes and interest) in 1910, 1912, 1915 and 1916, \$463,173; losses (allowances, taxes and interest in excess of earnings) in 1911, 1913 and 1914, \$417,735; net increase in fund, \$45,438.

The general relation between results in the last two years is shown by the following percentages of increase for 1916:

	Per Cent		Per Cent
Passenger revenue (exclusive of transfers) . . . . .	12.60	Total expenses, taxes and interest . . . . .	12.62
Passenger revenue (including transfers) . . . . .	12.53	Fares . . . . .	13.12
Gross income . . . . .	12.35	Transfers . . . . .	11.90
Maintenance allowance . . . . .	4.29	Rides . . . . .	12.57
Maintenance expenses . . . . .	12.41	Ordinance car-miles . . . . .	4.45
Operating allowance . . . . .	11.34	Actual car-miles . . . . .	4.50
Operating expenses . . . . .	16.34	Allowances, taxes and interest . . . . .	16.04
Taxes . . . . .	18.72	Expenses, obsolete equipment, taxes and interest . . . . .	14.40
Interest . . . . .	3.03		
Operating expenses, taxes and interest . . . . .	12.67		

## Electric Railway Earnings

Two Hundred and Ninety-four Companies Gain 9.65 Per Cent in Gross and 9.18 Per Cent in Net During 1916

The annual compilation of the gross and the net earnings of electric railways in the United States made by *The Commercial & Financial Chronicle* shows, it is said, that the influence of jitney competition as a disturbing factor has in a large measure passed away. For the calendar year 1916 the electric carriers again displayed their former characteristics and registered "the normal rate of progress which seems to be the law of their existence."

The gross earnings for 294 electric railways in 1916 were \$582,697,750, an increase over 1915 of \$51,272,132 or 9.65 per cent. The net earnings for the same roads in 1916 were \$219,236,230, an increase of \$18,444,332 or 9.18 per cent. The activity in trade and business had some influence in bringing about this improvement, but not such a tremendously important influence as in the case of the steam railroads.

Without doubt, it is said, the effect of business activity in 1916 would have been more marked in the case of the electric lines if it had not been for severe strikes in New

York City. These served to reduce heavily the earnings of the metropolitan traction lines. Local traction troubles at one or two other points had a similar effect in reducing revenues, both gross and net.

Not all of the separate roads included in the compilation shared in the improvement. Altogether, out of the 294 roads, forty-three showed a decrease in gross earnings and eighty a decrease in net earnings. The compilation is made up in considerable part of street railways, but the table includes many other electric lines in suburbs and also numerous interurban electric railways of large magnitude.

Besides the companies that furnished returns of both gross and net earnings, nine other lines gave figures of gross alone. For the total of 303 lines the gross earnings amounted to \$584,864,779 in 1916, an increase of \$51,280,442 or 9.61 per cent. By applying to these nine roads the same operating ratios for 1916 and 1915 as were found in the case of the large number of companies furnishing full reports, it was calculated that the aggregate net for the whole 303 roads reached \$220,587,618 in 1916, an increase of \$18,452,949 or 9.13 per cent.

By adding the returns of fifty-seven companies which reported for the fiscal year ended June 30, 1916, it was possible to get a general aggregate for 360 electric railways. The total of the gross earnings for the last year was \$626,840,449, an increase of \$52,457,550 or 9.13 per cent. The aggregate net earnings were \$234,402,450, an increase of \$18,484,877 or 8.56 per cent.

The minor railways not represented in the compilation, it is stated, would not swell the total to any great extent, but a few large companies are missing. Among these may be mentioned the Denver Tramway System, the Toledo Railways & Light Company and the Wilkes-Barre Railway. Many of the railways furnish electricity for lighting and power purposes, but in a number of cases only the income derived from the street railway departments of the company was included in the table.

The comparative totals of gross and net since 1905 are shown in the following table:

GROSS EARNINGS					
Period	Current Year	Previous Year	Increase	Per Cent	
1905 compared with 1904 . . . . .	\$306,067,145	\$281,608,936	\$24,458,209	8.68	
1906 compared with 1905 . . . . .	300,567,453	269,595,551	30,971,902	11.49	
1907 compared with 1906 . . . . .	306,266,315	280,139,044	26,127,271	9.33	
1908 compared with 1907 . . . . .	351,402,164	348,137,240	3,264,924	0.94	
1909 compared with 1908 . . . . .	374,305,027	345,006,370	29,298,657	7.49	
1910 compared with 1909 . . . . .	435,461,232	405,010,045	30,451,187	7.51	
1911 compared with 1910 . . . . .	455,746,306	428,631,259	27,115,047	6.33	
1912 compared with 1911 . . . . .	486,225,091	457,146,070	29,079,021	6.36	
1913 compared with 1912 . . . . .	529,997,522	500,252,430	29,745,092	5.94	
1914 compared with 1913 . . . . .	553,095,464	548,296,520	4,798,944	0.87	
1915 compared with 1914 . . . . .	567,901,632	569,471,260	*1,569,608	*0.28	
1916 compared with 1915 . . . . .	626,840,449	574,382,899	52,457,550	9.13	

NET EARNINGS					
Period	Current Year	Previous Year	Increase	Per Cent	
1905 compared with 1904 . . . . .	\$130,884,923	\$118,221,741	\$12,663,182	10.71	
1906 compared with 1905 . . . . .	126,530,195	114,024,076	12,506,119	11.01	
1907 compared with 1906 . . . . .	126,002,304	121,050,703	4,951,601	4.09	
1908 compared with 1907 . . . . .	142,262,417	141,144,213	1,118,204	0.79	
1909 compared with 1908 . . . . .	160,394,765	140,647,906	19,746,859	14.03	
1910 compared with 1909 . . . . .	178,037,379	167,100,351	10,937,028	6.54	
1911 compared with 1910 . . . . .	186,001,439	175,527,542	10,473,897	5.96	
1912 compared with 1911 . . . . .	194,309,873	179,915,760	14,394,113	8.00	
1913 compared with 1912 . . . . .	204,422,429	193,393,045	11,029,384	5.70	
1914 compared with 1913 . . . . .	211,020,088	212,146,403	*1,126,315	*0.53	
1915 compared with 1914 . . . . .	214,319,303	217,440,533	*3,121,230	*1.43	
1916 compared with 1915 . . . . .	234,402,450	215,917,573	18,484,877	8.56	

\*Decrease.

## Connecticut Recognizes Utility Bonds

The Governor of Connecticut has signed the amendment to the banking law of that State that has just been passed by the Legislature widening the scope of investments which are legal for savings banks to purchase. The investments so sanctioned include bonds of certain gas, electric, water and telephone companies of the New England States and New York to the amount of 2 per cent of the deposits and surplus of the banks. As noted in the *ELECTRIC RAILWAY JOURNAL* of April 14, page 708, the State of Maine recently passed a bill amending the savings bank law there so as to include certain bonds of public utility corporations not heretofore recognized as legal for investment in that State.



## Shore Line Program Approved

### Amendments to the Charter Desired by the Company Are Passed

The amendment to the charter of the Shore Line Electric Railway, Norwich, Conn., has passed both houses of the General Assembly of Connecticut in somewhat different form than originally presented, but the company has accomplished all that it desired to accomplish. It has secured the right to sell power to all public utility corporations doing business in its territory and to increase its capitalization as required, and has also obtained confirmation of the consolidation of its various properties. In addition to this program the company asked the Assembly to dissolve by legislative enactment the three companies that it absorbed on Nov. 1. This was denied as a legislative measure, but will be accomplished through dissolution in the ordinary way, by vote of the stockholders and public notices in the papers. Legislative dissolution would have relieved the company of these details.

A charter has also been secured for the Shore Line Electric Railway in Rhode Island, with the same stockholders as in Connecticut, absorbing, in this way, all the rights possessed by the Pawcatuck Valley Street Railway, Ashaway & Westerly Railway and the Westerly & Connecticut Railway. These were all owned until recently by the Norwich & Westerly Traction Company. This form of duplicate incorporation in two States is somewhat unusual. The New York, New Haven & Hartford Railroad was the first to secure this right. The Norwich & Westerly Traction Company then secured a similar charter and now the Shore Line Electric Railway is permitted the same privilege and absorbs the rights of the Norwich & Westerly Traction Company.

The program of the company for the accomplishment of the purposes mentioned was referred to briefly in the *ELECTRIC RAILWAY JOURNAL* of Feb. 10, page 268.

## Additional Financing Proposed

### American Water Works & Electric Company Proposes to Wipe Out Accumulated Dividends and Provide for Future

A circular has been issued to holders of voting trust certificates of the American Water Works & Electric Company, Inc., New York, N. Y., outlining a plan calling for an increase in the company's preferred stock from \$5,000,000 to \$10,000,000. Of such increase \$450,000 is to be issued at once to meet a part of the 21 per cent, or \$1,050,000, of dividends now in arrears on the issue. The remainder of the authorized increase of \$4,550,000 is to be issued from time to time to provide for improvement, betterments, etc., and to supply capital for enlarging activities of the company and for corporate purposes. If the plan is consummated, the directors believe that the company may safely begin paying in cash the current dividend on the first preferred stock. The plan provides that the dividend shall be liquidated as follows: \$150,000 or 3 per cent, in cash forthwith; \$450,000 or 9 per cent, in first preferred stock at par, and \$450,000 or 9 per cent, in common stock at 22½¢, or \$2,000,000 par value of common stock. On this basis the holder of \$10,000 of first preferred stock, upon which there is due \$2,100 accumulated dividends, will receive \$300 in cash, \$900 par value first preferred stock at par and \$4,000 par value common stock at \$22, or \$900, making a total of \$2,100.

Among the companies which the American Water Works & Electric Company controls are the West Penn Railways, the West Penn Traction Company and the West Penn Traction & Water Power Company.

**Bay State Street Railway, Boston, Mass.**—The Massachusetts Public Service Commission has authorized the Bay State Street Railway to issue \$489,000 of first preferred stock at \$100 a share, \$325,000 of Boston & Northern Street Railway fifty-year 4 per cent bonds and \$398,000 of Old Colony Street Railway bonds, the proceeds to be used to pay floating debt and for construction and equipment.

**Boston (Mass.) Elevated Railway.**—The directors of the Boston Elevated Railway have declared a quarterly dividend of 50 cents a share, payable on May 15 to stock of record of May 2. This makes \$5 per share declared for the fiscal year ending June 30.

**Boston & Worcester Street Railway, Boston, Mass.**—The Boston & Worcester Street Railway has applied to the Massachusetts Public Service Commission for authority to issue \$270,000 of additional preferred stock and \$40,000 of additional first mortgage bonds, which will make \$667,000 of stock and \$2,440,000 of bonds outstanding respectively.

**Brazilian Traction, Light & Power Company, Toronto, Ont.**—Alexander Mackenzie, president of the Brazilian Traction, Light & Power Company, has issued a statement in regard to the proposed suspension of dividends on the ordinary stock. In concluding this statement Mr. Mackenzie said: "Owing to the abnormal conditions arising from the war it has been necessary to meet capital requirements, so far as has not been paid out of earnings, by temporary loans, with the result that the floating debt of the company and its subsidiaries on March 31 amounted to \$4,850,000. Dividends on the preferred shares call for \$600,000 yearly, and on the ordinary shares at 4 per cent per annum call for \$4,250,000, making a total of \$4,850,000, which sum deducted from the estimated net revenue, leaves only a relatively small balance available for capital expenditure and floating debt. The board has, therefore, decided not to pay a dividend in June next and proposes to continue this policy throughout the year, unless there should be such improvement in foreign exchange to justify the resumption of the dividend at an earlier date."

**Caldwell (Idaho) Traction Company.**—Walter R. Sebree, president of the Caldwell Traction Company, reports that his company is planning to issue \$100,000 of bonds to provide funds to electrify its Wilder branch, now operated by steam, and to extend the present lines. The bonds are to run for ten years at 6 per cent interest. The trustee of the issue will be the Tracy Loan & Trust Company, Salt Lake City, Utah. All the stock of the Caldwell Traction Company is in the hands of the Sebree family. The property is at present free from bonded indebtedness.

**Cleveland (Ohio) Railway.**—The statement of operation of the Cleveland (Ohio) Railway for March shows an increase in the interest fund from \$434,744 to \$445,959. After making several payments, in accordance with agreements and findings, the accumulated deficit was \$1,063,098, not including any allowance for the old Cedar Avenue power house. The ordinance allowance for maintenance was \$118,029, and for operation, \$427,856, a total of \$545,886, while the actual expenditures were \$545,143, leaving a balance of \$742. For the month the total number of rides was 33,779,647, an increase of 10.01 per cent over last year. The number of fares was 24,747,216, an increase of 10.04 per cent. Transfers increased 6.04 per cent over the same month in 1916.

**Columbus, Delaware & Marion Railway, Cincinnati, Ohio.**—The sale of the Columbus, Delaware & Marion Railway has been ordered by Judge Kinkead in the Common Pleas Court following an agreement between counsel for the sale to be subject to mortgages held by the Guaranty Trust Company, New York, and the Cleveland Trust Company, Cleveland, Ohio. The receiver of the company had paid all interest charges up to last November. The demand for improvements in 1916, however, caused the expenditure of all surplus earnings, and no money was available to meet the interest due in November on the first mortgage. Later the receiver was ordered by the court not to pay interest on the second mortgage bonds of the company due on Feb. 1.

**Empire United Railways, Inc., Syracuse, N. Y.**—Interest on the Syracuse, Lake Shore & Northern Railroad and the Auburn & Northern Electric Railroad bonds will be paid on May 1 under a ruling by Supreme Court Justice Hubbs, directing receivers H. S. Holden and C. L. Allen to make the payment of about \$68,500. At the same time the court directed the receivers under the Syracuse, Lake Shore & Northern Railroad foreclosure action, which was abandoned when the Ford, Bacon & Davis reorganization plan was adopted, to turn over to themselves as receivers \$76,726,



which had accumulated under the Lake Shore receivership. The May 1 interest will be paid from the proceeds of this fund.

**Grand River Valley Railway, Grand Junction, Col.**—A. E. Carlton, vice-president of the Grand River Valley Railway, Grand Junction, Col., which also does lighting in Grand Junction and Fruita, in conjunction with his associates purchased the property of the Colorado Midland Railroad, a steam line, under foreclosure at public auction on April 21. According to the Denver *News* the new owners propose to make the Grand River Valley Railway, which is operated by electricity, a part of the Colorado Midland system.

**Long Island Railroad, New York, N. Y.**—The plans of the Long Island and the Pennsylvania Railroads for the readjustment of their financial relations to relieve the Long Island of some \$700,000 a year interest charges, and to give the Pennsylvania ownership of all of the Long Island stock has received tentative approval from the Public Service Commission for the Second District of New York. Under the proposal which now awaits only the formal approval of the commission, the Long Island Railroad will issue about \$22,000,000 of common stock and \$5,202,100 of 5 per cent debenture bonds. The stock will be acquired by the Pennsylvania Railroad and used to cancel a like amount of Long Island bonds held by the Pennsylvania Railroad upon which the Long Island now pays 4 per cent a year. The minority stockholders of the Long Island Railroad will receive the 5 per cent debentures in exchange at par for their holdings which will pass to the Pennsylvania Railroad.

**Northern States Power Company, Chicago, Ill.**—An offering of \$1,500,000 of new 7 per cent preferred stock, at par and accrued dividends, is being made to the shareholders of Northern States Power Company, nearly 3000 of whom reside in the territory served by the company in Minnesota and adjoining states. Any part of the issue which may not be taken by stockholders will be purchased by a syndicate composed of H. M. Bylesby & Company, William P. Bonbright & Company and Spencer Trask & Company. Proceeds of the stock will be used to acquire additional distribution centers, enlarge property and extend transmission lines.

**Orleans-Kenner Electric Railway, New Orleans, La.**—It is understood now that before the negotiations are concluded looking toward the control of the Orleans-Kenner Electric Railway passing to the New Orleans Railway & Light Company the residents of Jefferson Parish will have an opportunity to liquidate the indebtedness of the company to Bertron, Griscom & Company. This decision was reached at a meeting at which Harry K. Johnson, promoter of the Orleans-Kenner Electric Railway, explained the matter to the residents of the territory served by the company. Mr. Johnson reiterated very largely the statement made by Francis T. Homer, of Bertron, Griscom & Company, referred to in the *ELECTRIC RAILWAY JOURNAL* for April 28, page 799. Mr. Johnson said: "This road owes Bertron, Griscom & Company, who own the controlling interest in the New Orleans Railway & Light Company, about \$170,000. To secure this loan, we have pledged to them 51 per cent of our capital stock and a majority of our bonds. We have got to repay the loan, and we have been unable to finance the road, except through delivery of the control to Bertron, Griscom & Company."

**United National Utilities Company, Philadelphia, Pa.**—The Utilities Service Corporation, Philadelphia, Pa., is offering for subscription at \$100 per share with 50 per cent of common stock as a bonus the unsold balance of \$2,500,000 of 6 per cent cumulative preferred stock of the United National Utilities Company. The United National Utilities Company among other properties controls the American Railways and the Jersey Central Traction Company and affiliated lighting companies.

**West Penn Railways, Pittsburgh, Pa.**—The shareholders of the West Penn Railways and the West Penn Traction Company will vote on May 15 on a merger plan, the new company to be known as the West Penn Railways, with an authorized capital stock of \$20,000,000, of which \$10,000,000 will be common stock and \$10,000,000 6 per cent cumulative preferred stock, preferred both as to dividends and assets

and redeemable at 105. Of the stock so authorized \$7,365,406 of the preferred and \$8,044,700 of common will be issued, and the remainder reserved for future purposes.

**West Virginia Traction & Electric Company, Wheeling, W. Va.**—William P. Bonbright & Company, Inc., New York, N. Y., have underwritten \$1,800,000 of 6 per cent secured notes of a new authorized issue of \$2,000,000 of the West Virginia Traction & Electric Company. The proceeds will be used to retire the two-year 6 per cent collateral gold notes of the company, due on June 1, 1917. It is expected that a public offering of the notes will be made in the near future.

## Dividends Declared

American Railways, Philadelphia, Pa., quarterly, 1 3/4 per cent, preferred.

Bangor Railway & Electric Company, Bangor, Me., quarterly, one-half of 1 per cent, common.

Bristol & Plainville Tramway, Bristol, Conn., quarterly, 2 per cent.

Connecticut Railway & Lighting Company, Bridgeport, Conn., quarterly, 1 per cent, preferred; quarterly, 1 per cent, common.

East St. Louis & Suburban Company, East St. Louis, Ill., quarterly, three-quarters of 1 per cent, preferred.

Illinois Traction Company, Champaign, Ill., quarterly, three-quarters of 1 per cent, common.

## Electric Railway Monthly Earnings

### ATLANTIC SHORE RAILWAY, SANFORD, ME.

Period	'17	Operating Revenue	Operating Expenses	Operating Income	Fixed Charges	Net Income
1m., Mar.,	'17	\$25,739	*\$23,449	\$2,290	.....	.....
1 "	'16	23,473	*22,283	1,190	.....	.....

### CITIES SERVICE COMPANY, NEW YORK, N. Y.

1m., Mar.,	'17	\$1,721,480	\$31,312	\$1,690,168	\$225	\$1,689,943
1 "	'16	639,780	19,079	620,701	44,716	575,985
12 "	'17	13,391,411	268,593	13,122,818	127,917	12,994,901
12 "	'16	5,295,093	190,217	5,104,876	499,368	4,605,508

### FEDERAL LIGHT & TRACTION COMPANY, NEW YORK, N. Y.

1m., Mar.,	'17	\$239,235	*\$156,831	\$82,404	\$49,925	\$32,479
1 "	'16	216,914	*144,538	72,376	49,280	23,096
3 "	'17	712,926	*455,341	257,585	148,861	108,724
3 "	'16	658,614	*439,756	218,858	146,672	72,186

### HUDSON & MANHATTAN RAILROAD, NEW YORK, N. Y.

1m., Mar.,	'17	\$544,365	*\$244,614	\$299,751	\$218,865	\$80,886
1 "	'16	510,203	*225,376	284,827	213,161	71,666
3 "	'17	1,583,460	*710,273	873,187	651,299	221,888
3 "	'16	1,478,022	*647,526	830,496	639,865	190,631

### KANSAS CITY (MO.) RAILWAYS

1m., Feb.,	'17	\$564,260	*\$380,509	\$183,751	\$131,159	††\$39,805
1 "	'16	545,435	*361,513	183,922	115,333	††43,078
8 "	'17	4,917,264	*3,286,364	1,631,278	1,041,340	††309,515
8 "	'16	**	**	**	**	**

### LEHIGH VALLEY TRANSIT COMPANY, ALLENTOWN, PA.

1m., Mar.,	'17	\$218,467	*\$147,615	\$70,852	\$51,429	†\$31,128
1 "	'16	192,104	*119,661	72,441	51,923	†31,105
12 "	'17	2,584,929	*1,655,329	929,600	626,387	†452,457
12 "	'16	2,205,377	*1,300,807	904,570	650,159	†393,273

### NORTHERN OHIO TRACTION & LIGHT COMPANY, AKRON, OHIO

1m., Mar.,	'17	\$524,703	\$324,501	\$200,202	\$78,751	\$121,451
1 "	'16	392,206	189,547	202,659	106,375	96,284
3 "	'17	1,492,088	904,552	587,536	245,439	342,097
3 "	'16	1,118,751	533,974	584,777	293,550	291,227

### NORTHERN TEXAS ELECTRIC COMPANY, FORT WORTH, TEX.

1m., Feb.,	'17	\$158,578	*\$96,565	\$62,013	\$29,114	\$32,899
1 "	'16	141,880	*88,509	53,371	28,723	24,646
12 "	'17	1,967,490	*1,175,735	791,755	347,465	444,290
12 "	'16	1,739,749	*1,070,285	669,464	334,159	335,305

### REPUBLIC RAILWAY & LIGHT COMPANY, YOUNGSTOWN, OHIO

1m., Mar.,	'17	\$376,822	*\$245,765	\$131,057	\$78,347	†\$53,842
1 "	'16	330,046	*198,688	131,353	65,995	†67,385
12 "	'17	4,143,045	*2,514,630	1,628,415	868,735	†778,566
12 "	'16	3,355,280	*1,982,024	1,373,256	717,657	†662,127

### TWIN CITY RAPID TRANSIT COMPANY, MINNEAPOLIS, MINN.

1m., Mar.,	'17	\$916,605	\$610,439	\$306,166	\$150,094	\$156,072
1 "	'16	850,282	542,924	307,358	145,586	161,772
3 "	'17	2,641,912	1,799,459	842,453	435,069	407,384
3 "	'16	2,490,985	1,609,174	881,811	427,882	453,929

\*Includes taxes. ††Includes addition of miscellaneous income and deduction of Kansas City surplus reinvested in plant. \*\*During the fiscal year to Feb. 14, 1916, the property was operated by the receivers under the old securities, and the figures for this period, being without value in a comparative statement, are not shown here. ††Includes non-operating income.



## Traffic and Transportation

### Employees War on Jitneys

#### Committee of Los Angeles Railway Employees' Co-operative Association Successfully Circulates Anti-Jitney Initiative Ordinance

Owing to the ineffectiveness of the present jitney ordinance, the Los Angeles (Cal.) Railway has prepared an initiative ordinance to be submitted to the voters of Los Angeles on June 5. The salient features of the proposed ordinance, in addition to the present license, the Board of Public Utilities control and \$10,000 bond requirements, are that "each bus must be operated from 6 a. m. to 12 o'clock midnight" and that "no bus shall be operated in the congested district of the city."

This ordinance, an abstract of its main features and a statement of the attitude of the Los Angeles Railway employees, are being circulated for signatures on the initiative petition by a committee of 100 from the Co-operative Association of the Los Angeles Railway employees, assisted by all the wives of the members. These delegates on April 21 began a house-to-house canvass of the entire city. Although only 4800 bona-fide signatures of voters are required on an initiative petition, more than 10,000 signatures were obtained on the Saturday half-holiday, April 21, and on Monday, April 23. The delegates have met with the most encouraging reception everywhere. The abstract of the petition as circulated by the committee of employees read, in part, as follows:

#### THE MEN STATE THEIR POSITION

"Our whole body of men are feeling keenly the high cost of living, in common with the other wage earners of the country. We are, however, in the unfortunate position of having made application to our company for an increase of wages, but find it also is hard pressed to make both ends meet, owing to the unrestricted and unfair jitney competition.

"Our company pays annually to the State and to the city in the form of direct taxation and for paving and assessments practically \$20 per seat of the maximum number of cars operated in the evening rush hour, while the jitneys pay about \$3.50 per seat per annum, operate parallel to our lines, making the short runs and taking the straight 5-cent fares, absorbing the cream of the business and leaving the unprofitable portion for the company. Our hope is to restore the revenues of the company and thereby enable our employer to increase wages."

This initiative petition is the outgrowth of an employees' mass meeting called by the management to explain the financial status of the company. The men were so indignant at the unfair jitney competition that they wanted to make a direct appeal to the City Council; but after conference with the management the present plan of going to the voters with an initiative ordinance was adopted as more effective.

### I. C. C. to Consider Freight Advance

The Interstate Commerce Commission has outlined its procedure in the hearing on the proposed 15 per cent increase in freight rates. The subject will be considered under seven heads, as follows:

The present emergency; war conditions; labor and wages; cost of fuel, material and supplies; recent changes in rates; the reasonableness of the proposed increased rates; and application to be made of the proposed increased revenue. Under the first head the commission will ask if an emergency affects all carriers alike, whether all require the same degree of relief, why that relief should take the form of a general percentage increase, and why the increase should be 15 per cent. The extent to which the Adamson law is responsible for the alleged emergency also is to be brought out.

### Progress in Buffalo Survey

#### Construction of a Rapid Transit System and a Loading Terminal Are Recommended, Besides Several Rerouting Plans

The Chamber of Commerce of Buffalo, N. Y., is taking an unusual interest in the efforts of the two special traffic committees and the street railway officials to improve the local traffic conditions through the extensive survey now being made in that city. The International Railway has several rerouting plans under consideration. As soon as the Franklin Street franchise is approved by the Public Service Commission, tracks will be laid and many lines now using Main Street between The Terrace and Allen Street will use the Franklin Street line. Another plan calls for the removal from Washington Street of the cars of the heavily-patronized Broadway line, one of the largest traction arteries, to the east side. The special traffic committee of the Chamber of Commerce, which was appointed several months ago, has recommended the construction of a subway or an elevated system. M. S. Burns, chairman of the committee, did not indicate in his report which would be the better, but municipal authorities seem to favor the former.

Charles R. Barnes, electric railway inspector of the Public Service Commission for the Second District, who has been in Buffalo for two months investigating traffic conditions, will complete his report about June 1. R. G. Winans, assistant electric railway inspector, is aiding in the work, and several men in the employ of the railway are helping to make the traffic studies. Mr. Barnes is now investigating the present shortage of power.

Capt. George H. Norton, city engineer of Buffalo, has recommended the construction of a loading terminal on the site acquired by the company several years ago. At that time the company proposed to construct a large interurban terminal and office building on Pearl Street, in the heart of the downtown business section. Captain Norton has suggested that a loading terminal with separate tracks for the North Main Street, Riverside and West Side lines would facilitate the movement of traffic during the rush hours. He also favors the construction of a subway through the congested district.

### Copper-Fare Zones Authorized

#### Small Massachusetts Road Will Charge 2 Cents per Mile, with a Minimum Rate of 6 Cents

The Public Service Commission of Massachusetts has granted to the Concord, Maynard & Hudson Street Railway, Maynard, Mass., a subsidiary of the Massachusetts Consolidated Railways, authority to establish a copper-zone system of fares on a 6-cent basis. The hearing was held on April 18. The case was the first the Massachusetts Commission has had which involved a copper-fare zone system proposed by a street railway. The company will charge 2 cents per mile for the distance actually traveled with a minimum charge of 6 cents. The road will be divided into 1-mile zones, indicated by mile posts, and a passenger may ride any distance within three consecutive zones for 6 cents with a charge of 2 cents for each additional mile or fraction thereof. The company proposed the new system in order to meet increasing operating expenses, chief of which is for coal, which now costs \$10.50 per ton as compared with \$3.50 per ton in 1914. Quotations for future deliveries promise no relief.

The company's line is 18 miles long and runs from Concord Center through Acton, Maynard and Stow to Hudson Center, with a 4-mile branch from Maynard Center to West Acton. The average capitalization per mile is \$26,102 compared with \$52,111 for all Massachusetts street railways except the Boston Elevated. The dividend rate has averaged 1 per cent in the sixteen years the company has been operating. The net earnings in 1916 were \$27,568, a decrease in that year of 9 per cent as compared with those of 1912. Taxes increased 34.9 per cent since 1912, the operating expenses 19.41 per cent, while the net divisible income decreased 27.41 per cent. R. H. Holt, counsel for the company, stated that the cost of power per car-mile was 5.57



cents in 1916 while the average for Massachusetts companies was 3.13 cents. The present fare on the main line is 6 cents with zones from 3 to 4 miles in length and a 5-cent fare is charged on the West Acton branch.

The company anticipates no difficulties in fare collection on closed cars and expects to apply the new system to open-car service by cutting an aisle through the open cars. The estimated cost of remodeling the cars is about \$250 each. It is proposed to accept transfers from connecting roads at each end for a ride within a 1-mile zone.

## Chicago to Enforce Traffic Rules

The two ordinances relative to "loading zones" and vehicle parking, in Chicago, Ill., became effective on May 1. They were passed by the City Council on March 12, as reported in the issue of the *ELECTRIC RAILWAY JOURNAL* of March 17, page 521. In order to accelerate these campaigns the city authorities, prior to May 1 sent to all garage owners, teaming concerns, etc., notices to remind drivers of the new law. The so-called "loading zones" in the downtown districts have been marked off with 7-ft. standards placed on the sidewalk near the curb. The notice sent out to owners and drivers of vehicles was in the form of a 21-in. x 28-in. poster and read as follows:

"Loading zones,' or spaces, to allow passengers to board street cars are established on various downtown streets by city ordinance, effective on May 1, 1917. These 'loading zones' will be designated by appropriate signs, placed on sidewalks near the curb. Vehicles shall not be permitted to stop within 'loading zones' except upon the signal of a police officer, provided, however, that one vehicle at a time shall be permitted to stop within certain zones for the purpose of loading, or unloading merchandise received from or delivered to, occupants of buildings fronting on certain zones. Vehicles shall pass through loading zones in conformity with the traffic officer's signal and in single file, and shall keep as close as possible to the right-hand curb.

"After May 1, 1917, between the hours of 7 and 10 a. m. and between 4 and 7 p. m., no vehicle shall be permitted to stand on any public street on which street cars are operated within the district bounded on the north by the north line of Lake Street, on the east side by the east line of Wabash Avenue, on the south by the south line of Van Buren Street and on the west by the west line of Market Street, for a longer period than necessary for such vehicle to load or unload its occupants, baggage or merchandise.

"Violators of either of the foregoing ordinances may be punished by a fine not to exceed \$100 for each offense."

## Dallas Jitney Ordinance Opposed

A temporary injunction against enforcement of the initiative ordinances, including a jitney ordinance, recently adopted in Dallas, Tex., subject to approval in the city election, has been granted by Judge Foree of the District Court of Dallas County. The initiative jitney ordinance was approved by the voters, and was to have become effective after a few days. It required owners of jitney buses in Dallas to make up an indemnity fund of \$5,000, or more, to protect the public against injury or property damage. Prospective jitney operators had complied with its provisions, 103 jitney owners having subscribed \$50 each to this fund, and it was believed that 100 more would place cars in service after the ordinance went into effect.

The injunction was granted on petition of the Dallas Consolidated Electric Street Railway, the Rapid Transit Railway, and the Metropolitan Electric Street Railway, all of Dallas. It stated that the ordinance was invalid because it had not been printed and sent out to the voters in conformity with the law prior to the election. It was also alleged that it destroys the safeguards of the rights of the people as contained in the previous ordinance of Jan. 5, and that it operates to reduce the possible revenues of the city through licenses. Operation of motor buses under the ordinance would deprive the plaintiffs of gross revenue of about \$1,200 a day, it is stated, and would interfere with street car schedules. It is further claimed that the motor bus operators are irresponsible.

**One-Man Cars for Fargo, N. D.**—The Northern States Power Company is contemplating the substitution of fifteen one-man cars for twelve cars now in service on its street railway system in Fargo, N. D.

**Jitney Operator Loses Amount of Bond.**—The sum of \$2,500, the full amount of the bonds of August Olson of Seattle, Wash., driver of a jitney bus, was awarded by a jury recently to Mrs. Henry Price, in the King County Superior Court. Mrs. Price was run down by a jitney operated by Olson on Sept. 31, 1915. Suit was brought against Olson and John C. Lynch, as ancillary receiver of the Pacific Coast Casualty Company.

**Conductor Directs His Passengers.**—A safety-first suggestion made by H. K. Stith, a conductor on the Louisville (Ky.) Railway, follows: "I think many accidents would be prevented if conductors would ask passengers who have boarded a car just before it rounds a curve not to walk in to take seats until the car has made the curve. Many times they are thrown against seats or doors and are often hurt. I find it to be a great help on single-truck cars."

**Children Rewarded for Safety Suggestions.**—As a result of the safety-first contest in the campaign which the Arkansas Valley Railway, Light & Power Company, Pueblo, Col., has been conducting for several months, unusual interest has been manifested by the school children in the company's territory. The company offered five prizes of \$2 each for the five best suggestions on the prevention of accidents, and received a large number of excellent replies.

**Universal Transfer Plan for Cincinnati.**—The Council Committee on street railways has been informed by the Cincinnati (Ohio) Traction Company that a plan for universal transfers is being prepared under the terms of the rapid-transit ordinance, and that it will be submitted to Mayor Puchta for approval before May 15. The plan will go into effect as soon as it is approved. Until a street railway commissioner is appointed the Mayor will act in that capacity.

**Another Company Opposes Rowdyism.**—The Philadelphia & West Chester Traction Company, Upper Darby, Pa., has placed officers on its interurban cars with instructions that all men who show the least sign of intoxication be put off the cars, or, if their condition is detected, they should not be allowed transportation. Officials of West Chester hail the move with approval, and the work will be continued until the riding is made safer and more comfortable for desirable patrons.

**Spokane Jitneys Refuse to Obtain Bonds.**—About fifty members of the Individual Auto Owners' & Chauffeurs' Union of Spokane, Wash., have secured a temporary injunction in the Superior Court, which prevents officials from arresting them for operating jitneys without bonds. It is alleged that bonds cannot be secured, but the jitney men are willing to carry liability insurance. In all 100 jitneys are operated in that city without bonds. It is declared that the bond requirement would destroy the business of the jitneys, as all the bonds expire during the next four months. The Spokane jitneys have carried 12,000 passengers daily for two years.

**Would-Be Jitney Operators Ignored.**—The Public Utilities Commission of the District of Columbia has received applications from more than 250 operators of motor vehicles for permission to operate over periods varying from one round trip a day to regular and frequent trips, and in many cases paralleling the routes of street railways. The commission felt that the large number of applications resulted from the conditions incident to the strike of trainmen of the Washington Railway & Electric Company, Washington, D. C., which was declared on March 12. It was thought probable that these operators would not establish permanent routes, and no action was taken. The commission held that the applicants should be required to secure the usual licenses to operate vehicles for hire.

**"Famous Stops" Condemned.**—In a recent efficiency talk addressed to car men, G. B. Powell, superintendent of employment of the Louisville (Ky.) Railway, denounced the practice of stopping unnecessarily at carhouses. Mr. Powell said: "The stop at the carhouse is not only famous but has become notorious. To be sure, you must have coal, sand,



change, transfers, etc., but why not see that you have a supply of all these things before you start out? In fact, you are required to do so. One minute seems ten to passengers when the stop is made at the carhouse, and especially is this so when the minute drags into two or three while the members of the relief crew finish a game of checkers, put on their coats, comb their hair, brush their shoes, and finally arrive on the street where they should have been when the car was due."

**Patrons Object to Tariff.**—A complaint signed by more than 150 residents of the vicinity of Horseheads against the Elmira Water, Light & Railroad Company, Elmira, N. Y., has been received by the Public Service Commission for the Second District of New York which asks for the establishment of a 5-cent fare between Horseheads and Elmira, for a fifteen-minute schedule between those places from 5 to 6 p. m., and that the company be compelled to restore the use of ticket books. The tariff under which the ticket books were withdrawn went into effect on Feb. 15, after the regular thirty-days' notice, the effect of which was to increase the fare between Horseheads and Elmira from 7.14 cents to 10 cents. The complainants have been informed that the tariff must remain in effect pending investigation. The complaint has been served on the company and a hearing will undoubtedly follow.

**Discontinuance of Crossing Tenders Permitted.**—The Public Service Commission of Massachusetts has authorized the Bay State Street Railway, Boston, Mass., to discontinue the services of special crossing tenders at the Main Street crossing of the Boston & Maine Railroad, in Wilmington, and at the Central Street crossing of the New Haven road in East Bridgewater. About fourteen trains a day pass these crossing at low speed, and the railroad companies also protect each with a flagman from about 6 a. m. to 7 p. m. The board will require the company to install a wire trolley guard over each crossing, and to make a regular stop within 100 ft. of the track, the conductor to signal the motorman and remain on the track until the car has passed. The board denied the company permission to discontinue a special crossing tender in Winchester on account of the large amount of traffic concerned.

**Fare Controversy in Duluth.**—The City Council of Duluth, Minn., has proposed that the Duluth Street Railway be compelled to reduce street car fares in that city, since the Public Affairs Committee granted the company permission to double the present 5-cent fare on its Morgan Park line. The agreement was that the line would be extended from Morgan Park to New Duluth, a distance of about 3 miles. With the extension of the system the outlying districts would no doubt be built up and be a source of greater revenue, but the company's financial condition was such that it could not undertake the work on a single-fare basis. The City Council opposed the measure and adopted unanimously a resolution requesting the railway to limit its fares on all lines to 5 cents. On April 16 City Attorney Samuelson, after investigating the company's franchise, stated that in his opinion the Council had no authority over the fares outside the city limits. The only recourse left to the city was to exercise its authority to regulate the city fare and proposed to have it reduced to 3 or 4 cents.

**Buses Operate Pending Decision.**—Until the Supreme Court of Washington hands down a decision in a case now pending, the Ferry Line Auto Bus Company, operating in West Seattle, will do business without a license, and the injunction granted recently by Judge Everett Smith in the Superior Court, as noted in the ELECTRIC RAILWAY JOURNAL for April 28, page 802, prevents the State and county authorities from interfering. The company refused to pay the annual fee charged auto stage lines on the ground that it is not a stage line. It had offered to pay the fee for operating vehicles for hire, but this was not accepted. The company was fined \$50 in the Justice Court for operating without a license and on appeal to the Superior Court it was fined \$150. The case then went to the Supreme Court, to determine whether, under the laws of 1915, the line is a stage line. The 1917 law specifically states that bus lines, operated within city limits, do not come under the classification of stage lines, but this law will not be in effect until June 12.

## Legal Notes

**ALABAMA.**—*Company Not Responsible for Collision with Trailer.*

A motorcycle rider, whose machine was not struck by the motor car of a two-car train but by the trailer, could not recover, since he, and not the car, must have brought about the accident. (*Hamilton v. Birmingham Railway, Light & Power Co.*, 72 Southern Rep., 950.)

**MAINE.**—*Shipper's Employee on Top of Car—Trespasser or Licensee.*

In an action against a railroad for death of the employee of a potato growers' association, fitting a car for the shipment of potatoes, who came in contact with the road's trolley wire when he climbed to the top of the car to release the brake, evidence held to show that at the time of the accident deceased was either a trespasser or a mere licensee, toward whom the road was guilty of no breach of duty. (*Allen v. Aroostook Valley R. R.*, 98 Atlantic Rep., 1027.)

**MARYLAND.**—*Injury to Passenger When Car Starts.*

To start an electric car while a passenger is in the act of stepping from the rear platform into the car is not negligence, in the absence of any unusual circumstance or condition. (*Brocato v. United Railways & Electric Co.*, 99 Atlantic Rep., 792.)

**NEW JERSEY.**—*Inviolability of Fare Contract.*

When a traction company organized under the general traction act of 1893 (P. L. page 302; Comp. St. 1910, page 5021), accepts from a municipality an ordinance granting a location of street railway tracks, a regulation of the rate of fares contained therein, if lawful and reasonable, constitutes a contract between the company and the municipality which during the life of the franchise remains inviolable, and it is incompetent for the board of public utility commissioners or the municipality to impose upon the company an additional burden in violation of such contract respecting fares. (*Atlantic Coast Electric Railway v. Board of Public Utility Commissioners*, 99 Atl. Rep. 395.)

**NEW JERSEY.**—*Provisions of Traffic Act Not Applicable to Electric Car at Crossing.*

The provisions of paragraph 1 of section 4 of the Traffic act of 1915 (P. L. p. 285), requiring every driver of a vehicle approaching the intersection of a street or public road to grant the right of way at such intersection to any "vehicle" coming from the right, does not impose this duty upon the motorman of a street car. (*Reed v. Public Service Ry.*, 99 Atlantic Rep., 100.)

**NEW YORK.**—*"Refusal" Must Be Actual Denial.*

A carrier, whose conductor through inadvertence and mistake during a busy time punched the wrong expiration time on a transfer issued to a passenger, does not thereby become liable for the penalty imposed by Public Service Commissions Law (Consol. Laws, chap. 48, sec. 49, subd. 7), for the refusal to comply with the requirements of that section as to the issuance of transfers, since to "refuse" connotes something affirmative, to deny, to decline, to reject, not merely negatively to fail. (*Osborn v. International Ry.*, 161 New York Sup., 1042.)

**OHIO.**—*Duty of County Commissioners to Maintain City Bridge.*

Where a franchise to construct and operate an electric railway on a free turnpike is granted by a board of county commissioners, one of the conditions of which is that the railway shall maintain and repair all the bridges over the route at its own expense, and under the direction of the county engineer and commissioners, the fact that territory embracing a portion of the turnpike, which includes a bridge theretofore erected by the county commissioners, is duly annexed to a city, does not relieve the commissioners of their duty to maintain the bridge nor serve to transfer to the city authorities any of the rights or benefits accruing to the commissioners under such contract. (*Inter-urban Railway & Terminal Company v. City of Cincinnati*, 114 Northeastern Rep., 258.)



## Personal Mention

Charles S. Hervey has been reappointed to serve another term on the Public Service Commission of the First District of New York.

Alfred S. March, of New Brunswick, on May 1 succeeded John J. Treacy as a member of the Board of Public Utility Commissioners of New Jersey.

O. R. Sturzinger has resigned as superintendent of the Northwestern Ohio Railway & Power Company, Toledo, Ohio, which office was abolished.

J. B. Ledlie, assistant electrical engineer for the Northern Texas Traction Company, Fort Worth, Tex., has been promoted to succeed E. E. Nelson as electrical engineer.

W. H. Douglass has resigned as superintendent of the Northern Ohio Traction & Light Company, Akron, Ohio, to become general superintendent of the Cleveland, Painesville & Eastern Railroad, Willoughby, Ohio.

John H. Cain, assistant superintendent of transportation of the Rochester Lines of the New York State Railways, has been appointed superintendent of the employment bureau, succeeding George Lawson, resigned.

Arnold Swain has been appointed assistant treasurer of the Key West (Fla.) Electric Company, to succeed R. C. Shepard, who was transferred to the office of the treasurer of the Stone & Webster Management Association, Boston, Mass.

Edward Flad, consulting engineer, St. Louis, has been appointed to succeed John Kennish on the Public Service Commission of Missouri. Mr. Kennish will resume the practice of law in Kansas City after a few months of traveling in the West.

Roydan Douglas and V. K. Irion, members of the Public Utilities Commission of New Orleans, La., have been appointed members of the special commission to investigate transportation conditions in that city. All the members of the board are now on the special commission.

Noah W. Simpson, secretary to the Governor of Missouri, has been made successor to Howard B. Shaw on the Public Service Commission of that State. Mr. Simpson was formerly prosecuting attorney of Lewis County, and served one term as representative in the State Legislature.

Newton M. Hudson has been appointed receiver of the Central Park, North & East River Railway, succeeding John Beaver, deceased, and not of the Second Avenue Railroad, New York, N. Y., as reported last week. Mr. Hudson is auditor of the latter road and continues in that capacity.

J. J. Chisholm has been appointed superintendent of power of the New Orleans Railway & Light Company, New Orleans, La., to succeed E. B. McKinney, who had been with the company more than twenty years. Mr. Chisholm was formerly superintendent of power of the Tennessee Coal & Iron Company in Birmingham.

F. S. Richards has been appointed cashier and assistant treasurer of the Brooklyn (N. Y.) Rapid Transit Company, succeeding W. J. O'Neill, deceased. Mr. Richards began his services with the Brooklyn company as clerk in the treasurer's department in 1898, and four years later was made assistant cashier, the position he has just resigned.

Charles Whiting Baker has retired from the position of editor of *Engineering News-Record* and has become consulting editor of the paper. Frederick E. Schmitt, who was associate editor of *Engineering News* from 1902 until its consolidation with *Engineering Record* as *Engineering News-Record* a few weeks ago, succeeds Mr. Baker as editor.

George H. Ross, Jr., has resigned as superintendent of the railway and gas departments of the Trinidad Electric Transmission Railway & Gas Company, Trinidad, Col., to accept a government position in the engineering department of the Newport News Shipbuilding & Dry Dock Company, Newport News, Va., for the period of the war. Mr. Ross intends to return to electric railway work.

E. E. Nelson, for the last eleven years electrical engineer for the Northern Texas Traction Company, Fort Worth, Tex., has entered the service of the Adirondack Electric Power Corporation at Utica, N. Y. Before his departure a banquet was tendered him by officials and employees of the company, who presented him with a gold watch and chain as a token of their esteem.

George Carson, claim agent of the Fifth Avenue Coach Company, operating buses on Fifth Avenue, New York, N. Y., was the subject of a complimentary sketch in the April number of *Bus Lines*, that company's publication. Mr. Carson is an expert in safety and accident-prevention work, having been one of the first to originate safety committee organizations as applied to electric railways.

R. R. Hadsell has been appointed assistant superintendent of transportation of the New York State Railways, Rochester Lines. Mr. Hadsell was formerly division superintendent of the United Traction Company, Albany, N. Y. He started his electric railway career as a conductor for the International Railway, Buffalo, N. Y., in 1901, and remained with that company for three years, when he resigned to become inspector of city lines for the Schenectady (N. Y.) Railway. In 1913 he entered the service of the United Traction Company in the position which he has just relinquished.

H. C. Morris, general manager Dallas (Tex.) Gas Company, was elected president of the Southwestern Electrical & Gas Association at its annual meeting in Dallas, held on April 26-28. Mr. Morris was born in Detroit in 1879, and entered the service of the Detroit City Gas Company in 1898. For two years following 1902 he was superintendent of the Saginaw (Mich.) City Gas Company, and thereafter until 1908 he acted as assistant general manager of the Bay City Gas Company and the Bay City Traction & Electric Company. He then went to Dallas as superintendent of the Dallas Gas Company, with which he is now connected, and was later made general manager.

John O. Wiegel has been appointed acting general superintendent of the International Railway, Buffalo, N. Y., to succeed Nelson H. Brown, resigned. Mr. Wiegel went to Buffalo several months ago to become superintendent of schedules, having resigned as chief of the time-table department of the Brooklyn (N. Y.) Rapid Transit Company. His twenty years of electric railway work were begun in Brooklyn in the shops and he steadily worked up through the ranks to his last position. Scientific schedule making was early adopted on the Brooklyn Rapid Transit System and was inaugurated under Mr. Wiegel's supervision with marked results. He has already effected changes in the service of the International Railway to relieve the present traffic situation in Buffalo.

William F. Stanton, who was formerly assistant to the general manager of the Schenectady (N. Y.) Railway, has accepted a position as assistant to James F. Hamilton, general manager of the New York State Railways, Rochester Lines, who was until recently general manager of the former road. Mr. Stanton began his railway career in 1904 with the Schenectady Railway. After three years of service in various capacities in the clerical department he held the position of secretary to the general manager for several years. Mr. Stanton is secretary-treasurer of the New York Electric Railway Association. He was elected to that office in 1915 well qualified for its responsibilities, as he had been for a few years previously secretary to two presidents of the association, Messrs. Peck and Hamilton. By reason of his central location and familiarity with the New York association he has served it in addition to his other duties and has shown an unusual interest in its affairs.

J. F. Uffert, formerly master mechanic of the United Traction Company, Albany, N. Y., has accepted a similar position with the New York State Railways, Rochester Lines, succeeding G. M. Cameron. Mr. Uffert was born in Newark, N. J., in 1880 and began railway work with the Consolidated Traction Company of that city, now a part of the Public Service Railway. He then served as shop foreman a few years for the Union Railway, New York, after which he went West to become assistant superintendent of equipment for the Tacoma Railway & Power Company and the Puget Sound



Electric Railway of Tacoma, Wash. Mr. Uffert became master mechanic of the United Traction Company in 1912 after serving for one year in that capacity for the Hudson Valley Railway, Glens Falls, N. Y., both subsidiaries of the Delaware & Hudson Railroad.

J. B. Stewart, Jr., has been appointed assistant to the general manager of the Mahoning & Shenango Railway & Light Company, Youngstown, Ohio. Mr. Stewart is a graduate of the High School at Newton, Mass., and the Massachusetts Institute of Technology. He entered the railway field as an engineer for the Middlesex & Boston Street Railway, Newtonville, Mass., and left that company to accept a position as assistant to the general manager of the Buffalo & Lake Erie Traction Company at Erie, Pa. In 1910 he was engaged on the construction of the Corning division of the Elmira, Corning & Waverly Railroad, Waverly, N. Y., later becoming superintendent. Two years later Mr. Stewart joined the organization of the Lehigh Valley Transit Company, Allentown, Pa., as park manager and acted as assistant to the traffic manager. He has been with the company which now employs him since 1913, serving in the capacities of safety and efficiency engineer and superintendent of freight, and just previous to his recent appointment he was superintendent of equipment and traffic.

Nelson H. Brown has been transferred from his position as general superintendent of transportation of the International Railway, Buffalo, N. Y., to that of manager of the electric railway properties of the New Orleans Railway & Light Company, New Orleans, La., both subsidiaries of the United Gas & Electric Corporation. In appreciation of his services and as an expression of the esteem in which he is held by officials and department heads of the International Railway, he was presented with a diamond ring and a set of diamond cuff links. Mr. Brown began his service with that company four years ago and was successively assistant superintendent and superintendent of the Buffalo division and finally general superintendent of the company. He has had a wide and varied experience in railway service, which he began in the mechanical department, and later as a fireman for the New York Central Railroad. Other lines with which he has been connected are the Consolidated Street Railway, Syracuse, N. Y., and its successors, the Syracuse Rapid Transit Company, the Worcester (Mass.) Consolidated Street Railway, the Worcester & Southbridge Street Railway and the Albany (N. Y.) Southern Railway. Many changes and improvements in the International Railway can be credited largely to Mr. Brown's able management.



N. H. BROWN

## Obituary

Mark Lowd, southwestern manager of the Stone & Webster Engineering Corporation, died of pneumonia at his home in Dallas, Tex., on April 27. Mr. Lowd was born in Salem, Mass., in 1870. After completing the Salem High School course he spent three years in the United States Naval Training School at Newport. He then took a course with the Thomson-Houston Electric Company, and several years later became associated with C. E. Hubbard in Boston, Mass., on the work of perfecting the third-rail system. He next entered the employ of the Narragansett Electric Light Company at Providence, R. I., and in 1902 became associated with Stone & Webster as chief engineer and superintendent of construction for the Seattle (Wash.) Electric Company. Mr. Lowd had been southwestern manager for the Stone & Webster Engineering Corporation since 1907, with the exception of two years, when he was transferred to Galveston to supervise the construction of the Galveston-Houston interurban.

## Construction News

Construction News Notes are classified under each heading alphabetically by States.

An asterisk (\*) indicates a project not previously reported.

### RECENT INCORPORATIONS

\***South Florida Interurban Railway, St. Cloud, Fla.**—This company, organized under the laws of Arizona, has filed a charter with the Secretary of State of Florida for the purpose of constructing an electric railway from Melbourne west to Haines City, north to St. Cloud, Orlando and Sanford, thence west through Marion, Lake and Citrus Counties on the west coast, entering Tampa from the north and finally completing the loop at Haines City. Headquarters are at St. Cloud. Officers: Charles D. Brenner, president; John H. Bowlin, vice-president; Frederic B. Stanley, treasurer, and William Hall, secretary.

\***Charleston-Gauley Electric Railway, Charleston, W. Va.**—Incorporated in West Virginia to construct a line from Charleston along the north bank of the Kanawha River to Gauley bridge, about 35 miles. Capital stock, \$100,000. Charles C. Dickinson, president. Incorporators: George P. Alderson, George B. Brooks, John Y. Arter, B. T. Clayton and J. H. Nash, all of Charleston.

### FRANCHISES

**Little Rock, Ark.**—The Little Rock Railway & Electric Company has received a franchise from the City Council to double-track its Pulaski Heights line on Prospect Avenue from Lee Avenue to I Street.

**Victoria, B. C.**—The British Columbia Electric Railway Company, Ltd., has asked the City Council for a franchise to double-track part of its line on Esquimalt Road.

**Evanston, Ill.**—The Evanston West Side Railway has asked the City Council for a franchise to construct a double-track line on Howard Street to Asbury Avenue, north on Asbury Avenue to Crain Street, west on Crain Street to Ashland Avenue and north on Ashland Avenue to Church Street; also two cross-town branches, one on Main Street to the western city limits, and one on Church Street to the western city limits. Clement C. Smith, president of the Evanston Railways, is the promoter of the new road. [Feb. 17, '17.]

**Wilmette, Ill.**—The voters of Wilmette, at a recent election, defeated the ordinance passed by the village board granting the Chicago, North Shore & Milwaukee Electric Railroad a twenty-year extension of its franchise. The company's present franchise has six years more to run.

**Ithaca, N. Y.**—Looking toward the most important improvements for the city of Ithaca that have been undertaken in recent years, the Common Council by a vote of eight to two, recently granted two franchises to the Central New York Southern Railroad and the Ithaca Traction Corporation. The two franchises include one permitting the Central New York Southern Railroad to enter the city of Ithaca by a new route in the northwestern section and another granting to the Ithaca Traction Corporation the privilege to operate its cars over the Central Southern lines within the city limits. The two railway corporations plan to expend several hundred thousands of dollars in improvements.

**New York, N. Y.**—The Union Railway has received a franchise from the Board of Estimate and Apportionment to construct and operate a trolley line connecting with its present system at the 207th Street bridge and continuing along Amsterdam and Nagle Avenues to the Dyckman Street ferry. Construction on the new line will be begun at once, and it is expected that operation will be begun by June 15.

**Salt Lake City, Utah.**—The Salt Lake & Utah Railroad has asked the City Commission for a franchise to construct a line on Seventh West Street from South Temple Street to the south limits of the city.



**Tacoma, Wash.**—The Tacoma Railway & Power Company has asked the County Commissioners for an extension of its franchise so as to include Browns Point and practically all the territory between Tacoma and the King County line.

**Tacoma, Wash.**—The City Council of Tacoma, Wash., recently voted to ask Pierce County for a twenty-five-year franchise, giving the city the right to lay and maintain a single or double track with proper sidings and to operate an electric railway on South Eleventh Street from Siteum Avenue to Commencement Bay Boulevard, thence to Lincoln Avenue; along Lincoln Avenue to Twenty-first Street; thence on Twenty-first Street to the city limits; also along the proposed street when opened between South Eleventh Street and Lincoln Avenue, near the Hylebos Creek Waterway.

### TRACK AND ROADWAY

\***Cascade Scenic Railway, Banff, Alta.**—Work will probably be begun this year by the Cascade Scenic Railway on the construction of a railway up the mountain near Banff. Harold Johnson, engineer.

**Edmonton, Alta.**—A communication from the Delta Copper Company, Edmonton, states that the company does not contemplate the construction of an electric railway, as reported in the *ELECTRIC RAILWAY JOURNAL* for March 24.

**Visalia Electric Railroad, Exeter, Cal.**—A contract has been let by the Visalia Electric Railroad to O. Ford, Riverside, for 6 miles of roadbed about 4 miles southeast of Portersville, 4½ miles of which will be main line and 1½ miles a branch line to rock quarry.

**Pacific Gas & Electric Company, Sacramento, Cal.**—It is reported that the Pacific Gas & Electric Company will reconstruct its entire system in Folsom.

**West Coast Electric Railway, Sarasota, Fla.**—This company's proposed line from Tampa to Venice will be built via either Bayshore or Parish. Three steel bridges will be built in connection with the line. Construction bids will be asked immediately after local work is finished. It is reported that the line will be operated with Edison storage-battery cars. E. M. Raymond, 1323 Land Title Building, Philadelphia, Pa., president, and A. E. Townsend, Sarasota, Fla., general manager and chief engineer. [Feb. 3, '17.]

**Tampa & Eastern Traction Company, Tampa, Fla.**—Work on this company's electric line between Tampa and Lakeland has been temporarily discontinued, according to E. J. Binford, vice-president of the road, because of the war situation. Much filling and grading have been done on the right-of-way and some of the ties for the road have been laid, although no tracks have been put down as yet. [Oct. 28, '16.]

**Caldwell (Idaho) Traction Company.**—Walter R. Sebree, president of the Caldwell Traction Company, reports that the company plans the bonding of its properties for \$100,000 for the purpose of electrifying its Wilder branch and extending the present lines. The construction of a loop extending through the Gem District and connecting the Lake Lowell branch of the system with the Wilder branch, the latter crossing the Snake River near Homedale, is planned.

**Fort Wayne & Decatur Traction Company, Fort Wayne, Ind.**—This company has petitioned the Public Service Commission of Indiana for permission to issue \$100,000 in bonds, part of the proceeds of which will be used for extensions and improvements.

**Arkansas Valley Interurban Railway, Wichita, Kan.**—Rails have been delivered and ties ordered for an extension to be built this summer by the Arkansas Valley Interurban Railway. Negotiations are now under way to construct industrial tracks to various points now being built and work is being done on right-of-way that will change the route of the cars through the city of Wichita. Instead of passing through the city on the main street, as now, the extension planned will route the cars west of the town to a connection with the Midland Valley Railroad. The passenger cars will reach the union station over tracks of the Wichita Railway & Power Company, and will loop back by the site of a projected \$1,000,000 hotel.

\***Wichita-Walnut Valley Interurban Railway, Wichita, Kan.**—This company has been organized at Wichita with an

initial capital stock of \$1,000,000 to construct an electric railway from Wichita to the oil fields of Butler County, about 35 miles. Two routes are under consideration, one from Wichita to El Dorado, via Augusta; the other through Andover, Benton and Towanda to El Dorado. Regular passenger and freight service will be established. It is expected that construction work will be begun early in the summer. Temporary officers were elected as follows: J. H. Butts, president; T. C. Coffman, secretary, and L. S. Naftzger, treasurer.

**Ashland, Ky.**—Powell & Clarke, Ashland, have been engaged as engineers for the proposed electric railway to be built from Ashland to Russell, about 5 miles. The Vaughan Construction Company, Shawsville, Va., has the contract for the construction of the road. The line may be extended to Greenup, 10 miles distant. [April 7, '17.]

**Paducah (Ky.) Traction Company.**—Work has been begun by the Paducah Traction Company double-tracking its line from Eleventh to Seventeenth Street on Broadway.

**Detroit (Mich.) United Railway.**—Grading has been begun by the Detroit United Railway on its extension from Highland Park to Royal Oak. The line will extend out on Oakland Avenue, and the entrance into Royal Oak is planned to be on Fourth Avenue.

**Billings (Mont.) Traction Company.**—A company headed by several local bankers and capitalists has been formed at Billings with a capital stock of \$500,000 to take over the property of the Billings Traction Company. The present system will be electrified and the lines extended.

**Woodbury, N. J.**—It is reported that right-of-way has been obtained for the construction of an electric railway from Woodbury to Paulsboro. It is proposed to build the line out West Center Street, across the Bell tract and strike the Crown Point road in a direct line. A committee has been appointed by the City Council to work in conjunction with the Board of Trade. [Dec. 2, '16.]

**New York State Railways, Utica, N. Y.**—The Public Service Commission for the Second District of New York has ordered the New York State Railways to rebuild its track in Main Street, Whitesboro. The order of the commission requires that one-half of the work be done during 1917 and the remainder next year, and that pending the completion of the new track the old track must be kept in a condition adequately safe for the operation of cars.

**Cleveland, Southwestern & Columbus Railway, Cleveland, Ohio.**—Judge Phillips, of the Common Pleas Court, recently rendered a decision giving the Cleveland, Southwestern & Columbus Railway the right to build its track across land leased from the West Cuyahoga County Agricultural Society. The County Commissioners brought suit to enjoin the company from using the land. This will enable the company to complete construction of its tracks around the village of Berea, where it was refused a renewal of franchise unless a reduction of fare was made between that point and Cleveland.

**Lake Shore Electric Railway, Cleveland, Ohio.**—Application has been made by the Lake Shore Electric Railway to the Public Utilities Commission of Ohio for authority to issue \$51,000 in bonds, the proceeds to be used for improvements, etc.

**Springfield (Ohio) Railway.**—H. J. Crowley, general manager of the American Railways Company, which controls the Springfield Railway, has announced that an extension will be built to the Northern Heights addition this year. It was stated that other extensions planned for this year would probably not be made, owing to the steel shortage.

**Cleveland, Painesville & Eastern Railroad, Willoughby, Ohio.**—This company has petitioned the Public Utilities Commission of Ohio for permission to issue \$68,000 in bonds, the proceeds to be used for extensions and improvements to its system.

**Youngstown & Suburban Railway, Youngstown, Ohio.**—The Municipal Service Corporation, Philadelphia, which recently purchased the Youngstown & Suburban Railway, plans a number of improvements in the line.

**Tulsa (Okla.) Street Railway.**—Work will be begun at once by the Tulsa Street Railway double-tracking a large part of its system in Tulsa.



**London & Port Stanley Railway, London, Ont.**—Bids will soon be asked by the London & Port Stanley Railway for 30 tons of 80-lb. rail for switching lines. J. E. Richards, London, manager.

\***Klamath Falls, Ore.**—The City Council of Klamath Falls has asked for bids for the construction of a municipal railway to extend from Second Street and Klamath Avenue to a point near Dairy, 20 miles east of Klamath.

**Philadelphia, Pa.**—Bids were opened by the Department of City Transit on May 1 for foundation work on the Frankford elevated line. Edwin H. Vare presented a substitute bid for work upon which he bid \$17,700 about a year ago. Two weeks ago he informed transit officials that the figures were far too low in view of advanced prices and asked permission to submit a new bid. This he did, the figures reported on May 1 being \$37,750.

**Dallas Northwestern Traction Company, Dallas, Tex.**—A charter has been granted by the State Department to the Standard Utilities Construction Company, which is organized for the purpose of constructing the proposed electric railway of the Dallas Northwestern Traction Company from Dallas to Slidell, via Denton, about 58 miles. Capital stock, \$100,000. Incorporators: M. W. Deavenport and H. Rowe, Denton; Ira E. Cornelius, Muskogee, Okla., and C. F. Hopkins, Tulsa, Okla. [April 14, '17.]

**Northern Texas Traction Company, Dallas, Tex.**—This company has been ordered by the City Commission of Dallas to reconstruct its tracks on Tyler Street between Seventh and Tenth Streets, and on Seventh Street between Bishop and Tyler Streets. Heavier ties laid on concrete foundation in connection with the laying of pavement on these streets are ordered.

**Puget Sound Traction, Light & Power Company, Seattle, Wash.**—This company will construct an extension of its East Union Street line from Twenty-ninth Avenue to a connection with the Madrona Park line at Thirty-fourth Avenue.

**Appalachian Power Company, Bluefield, W. Va.**—It is reported that this company contemplates the extension of its line from Bluefield to neighboring sections, including about 40 towns, covering a distance of about 50 miles.

## SHOPS AND BUILDINGS

**Indiana Railways & Light Company, Kokomo, Ind.**—The first move toward a larger terminal station in Kokomo has been made with the sale of the present station building of this company to T. C. Rapp, president of the American Trust Company. It is reported that George J. Marott, president of the Indiana Railways & Light Company, has acquired title to the ground at the southwest corner of Union and Superior Streets. The construction of the new station is in keeping with a line of improvements which will involve the expenditure of \$150,000. New machinery for the power plant, most of which has already been purchased, extensions to the city street car line in Kokomo and electric light improvements are parts of the program.

**Buffalo & Lake Erie Traction Company, Buffalo, N. Y.**—Work has been begun by this company on its new passenger and freight station at Brocton.

**Ithaca (N. Y.) Traction Corporation.**—A new station to cost about \$50,000 will be erected by the Ithaca Traction Corporation and the Central New York Southern Railroad at the corner of State and Meadow streets.

**Interborough Rapid Transit Company, New York, N. Y.**—The Public Service Commission for the First District of New York is advertising for bids to be received by May 16 for the construction of station finish on the nine stations on the new subway lines in Flatbush Avenue and Eastern Parkway, Brooklyn. One of the nine stations, that at Seventh and Flatbush Avenues, will be operated by the New York Municipal Railway Corporation, as it is located on the line of the connection now being constructed between the Brighton Beach line and the Fourth Avenue subway. The remaining eight stations are all on the subway line to be operated by the Interborough Rapid Transit Company in Flatbush Avenue and Eastern Parkway. The structure in Flatbush Avenue is six tracks in width, four of which are for operation by the Interborough Rapid Transit Company and two by the New York Municipal Railway. The

commission has also awarded to John B. Roberts, New York City, a contract for the construction of station finish for three stations on the Manhattan portion of the Park Place, William and Clark Street subway. The contract price for the work was \$139,919.

**Philadelphia, Pa.**—Director Twining, of the Department of City Transit, Philadelphia, rejected as too high the bid of the McClintock-Marshall Company resubmitted on May 1 for the construction of a steel station at Huntingdon Street. Sealed proposals for this station will be received by the Department of City Transit until May 15.

**Jefferson County Traction Company, Port Arthur, Tex.**—A contract has been awarded by the Jefferson County Traction Company, owned by the Eastern Texas Electric Company, to the Secrist Construction Company, for the construction of a brick and tile interurban station.

## POWER HOUSES AND SUBSTATIONS

**Edmonton (Alta.) Radial Railway.**—The installation of a motor generator set by the Edmonton Radial Railway, to cost \$6,100, has been recommended by J. H. Moir, traffic manager.

**Fort Smith Light & Traction Company, Fort Smith, Ark.**—This company will construct a 30-mile transmission line to supply Huntington and Greenwood from its Fort Smith plant. All contracts for material have been closed.

**Pacific Gas & Electric Company, Sacramento, Cal.**—This company is reconstructing the substation on the Marysville Road, Oroville, which was destroyed about two years ago. Work has also been begun by the company on the reconstruction of its plant at the foot of Huntoon Street. The lighting equipment in the business section of Oroville will be replaced with a modern system.

**Georgia Railway & Power Company, Atlanta, Ga.**—This company is erecting a new 110,000/38,000-volt substation at Norcross to feed the Stone Mountain line. The line from Norcross to Stone Mountain will be 10 miles long. The station will be equipped with two banks of three 1000-kva. General Electric transformers, with one spare for each bank.

**Illinois Northern Utilities Company, Freeport, Ill.**—Contracts have been awarded by the Illinois Northern Utilities Company for the erection of a new \$70,000 steam power plant in Dixon. The Adams Construction Company, Chicago, received the contract for the substructure and superstructure at \$45,000, and the Lakeside Bridge & Iron Company, Milwaukee, received the contract for the structural steel work at \$23,000.

**Springfield (Mass.) Street Railway.**—Arrangements have been made by the Springfield Street Railway under which power for its entire system will be secured from the Turners Falls Power & Electric Company. The engine-driven plant in Springfield will be shut down and a modern substation system provided. As announced in the *ELECTRIC RAILWAY JOURNAL* of April 21, page 748, President Cabot of the Turners Falls company has stated that within the next two or three years about \$3,000,000 will be expended in the extension of the generating and transmission facilities of that company.

**Interborough Rapid Transit Company, New York, N. Y.**—Improvements are contemplated by the Interborough Rapid Transit Company to its substation on Nineteenth Street, to cost about \$15,000.

**Sand Springs Railway, Tulsa, Okla.**—This company has purchased from the Westinghouse Electric & Manufacturing Company a 3125-kva. turbine unit, a duplicate of the one now being installed. The company now has three units, a total of 7500 kva.

**Lehigh Valley Transit Company, Allentown, Pa.**—A new 15,000-hp. turbine for the Lehigh Valley Transit Company's plant in Allentown has been completed by the Westinghouse Electric & Manufacturing Company and this will bring the capacity of the plant up to 45,000 hp. It is reported that increased demand from the electric railway and from industrial establishments in the Lehigh region will absorb all the added power.

**Harrisburg (Pa.) Railways.**—Extensions and improvements in its power plants are being considered by the Harrisburg Railways.



# Manufactures and Markets

Discussions of Market and Trade Conditions for the Manufacturer, Salesman and Purchasing Agent

Rolling Stock Purchases

Market Quotations

Business Announcements

## Helping to Reduce Selling Costs

Economizing Time of the Purchasing Agent and the Salesman—Old-Fashioned Salesmen Being Supplanted Rapidly

By W. V. C. BUCKELEY

Purchasing Agent Columbus Railway, Power & Light Company

I have read the article by L. W. Horne in the issue of the *ELECTRIC RAILWAY JOURNAL* for April 14, and agree with him absolutely that the consumers must pay all selling expenses. When salesmen are delayed, the selling expenses are increased, and this necessarily increases the cost of the article sold.

I make it a practice to save as much of a salesman's time as possible, by having definite office hours printed on my letterhead, stating the time at which I shall see all salesmen that come into the office. Inasmuch as my duties take me from the office every afternoon, this saves the salesmen the time that otherwise would be lost at finding me absent. In cases where it is necessary to give any particular attention to an order, I make an appointment for the afternoon. This clears the way for other salesmen whom we can interview quickly during the morning office hours.

I have no hesitancy in turning down a salesman flatly and offering him absolutely no encouragement in case his product does not appeal to me. I have noticed that there are a number of salesmen, in fact, quite a large number, who have the idea that the purchasing agent is all wrong if he does not buy their particular goods inasmuch as they represent the very best in that particular line, etc. Conversation of this sort unnecessarily takes up the time of both the salesman and the purchasing agent. The manufacturing concerns are realizing that the snappy, up-to-the-minute salesman, although he may cost more in the way of salary, is really most efficient in the end. This type of salesman helps to reduce the selling cost, as he gives the purchasing agent more time to himself which, in turn, will insure that he can give the salesmen more prompt attention.

Another method by which I exert an effort to reduce selling costs is through the forwarding of a bid form for products that I buy to the different manufacturing concerns on my list. A 2-cent stamp placed on the envelope to return this bid form to me is just as efficient and reliable as the call of the salesmen, and in some cases more so. I do not under any consideration accept a second price from any one competitor without giving the same chance to all other competitors, and a second price is not accepted unless the market conditions warrant such change. I feel that when salesmen know that they have but one chance to figure on an order, they will submit their best price first, and this, of course, saves considerable time, both on the part of the buyer and seller.

## Steel Pole Prices Make History

Even at Top Notch Prices Inquiries Are Frequent for Large Lots—Range of Prices Given for Twenty-two Years

Very few tubular steel poles are now available for purchase. The manufacturers of skelp suitable for steel poles are in the midst of the most congested period of the steel industry and hesitate to make any promises for future delivery. Also, the government has indicated to some manufacturers that it may require part or all of their productive capacity, and this prevents the manufacturers from contract-

ing for any orders which might interfere with government requisitions. The makers of steel poles are now beset with prospective purchasers of flagpoles. These poles are made from the large size tubing such as is used for the manufacture of trolley poles.

PRICES CONTINUE TO CLIMB

The exact situation is clearly indicated by the fact that some manufacturers have been forced to refuse orders for steel poles in lots of 500 or more from single purchasers. This is in spite of the high cost of pole steel, which is \$6.50 per 100 lb. The need for placing purchases early, even at present prices, is evident from the statement of one large pole manufacturer, who, with single poles at from \$85 to \$90, has issued quotations on more than his available stock. Steel poles are now being quoted at the highest prices ever reached, and owing to the general steel market situation no manufacturer is in a position to make quotations except for immediate acceptance.

Through the courtesy of A. L. Johnston, sales manager of the Electrical Engineers Equipment Company, Cincinnati, Ohio, this paper has been supplied with the accompanying statement of this company's average yearly selling prices on standard-weight tubular steel poles for each year since 1895. These prices are reproduced here because of their value for appraisal purposes and to show how present prices are far in excess of any in previous years. The quotations are for standard-weight poles per 100 lb.:

1895....\$2.40	1900....\$3.50	1905....\$2.70	1910....\$2.35
1896.... 2.30	1901.... 3.25	1906.... 2.80	1911.... 2.30
1897.... 2.00	1902.... 3.50	1907.... 3.25	1912.... 2.30
1898.... 1.90	1903.... 3.20	1908.... 3.00	1913.... 2.40
1899.... 4.00	1904.... 2.85	1909.... 2.40	1914.... 2.20

For the year 1915 the price averaged \$2.35 per 100 lb. until Nov. 17 and then rose to \$2.40. And for 1917 prices ranged from \$2.40 in January to \$3.65 in April and later to \$5 for stock shipments. This price ruled for January, February and March, 1917, for such stock as the manufacturer had in hand. The price now is about \$6.50, and no quotations can be made for the future.

## Regulating Coal Prices

Philadelphia Paper, Recognizing Plight of Some Utilities, Suggests Compulsory Standardization of Coal Prices

The problem that confronts the electric railways in securing a continuous supply of steam coal at reasonable prices was recently called to the attention of the readers of the *ELECTRIC RAILWAY JOURNAL* in an interview which appeared on page 623 of the March 31 issue by Frank J. Petura, purchasing engineer of the Doherty Operating Company, New York. The first difficulty that the electric railways experienced in connection with their coal supply was that growing out of the car shortage last fall. At that time some companies in the Middle West were compelled to go out into the open market and purchase coal at prices two or three times greater than those normally obtaining under long-time contracts. Another company with a contract which expired recently succeeded in renewing its contract, but at prices considerably in advance of those that prevailed before. Last week mention was made in these pages of four interurban roads in Indiana combining in self-defense to finance a coal-mining proposition. These roads are the Terre Haute, Indianapolis & Eastern Traction Company, the Indianapolis Traction & Terminal Company, the Union Traction Company of Indiana, and the Fort Wayne & Northern Indiana Traction Company. Only the week before the W. S. Bar-



stow & Co. interests announced the incorporation of a company to acquire a coal-operating property in West Virginia, the output to be available almost immediately for use by subsidiaries of the General Gas & Electric Company and the Eastern Power & Light Corporation at the contract price in effect last October. Few companies, however, are so organized that the alternative is possible of mining coal for themselves. The following suggestion for a possible way to obtain a measure of relief in the future was contained in the financial letter of the Philadelphia *Public Ledger* on April 28:

"Each day brings out further evidence of the difficulties under which the public utility companies are now operating. Reporting for March, the Northern Ohio Electric Corporation shows a gain of 33.54 per cent in gross earnings, but an increase of 70.10 per cent in operating expenses. Abnormally high prices for coal caused increases in expenses of \$51,439 for the month, and for three months of this year the high cost of coal has added \$193,017 to this company's costs. For March the Republic Railway & Light Company shows a gain of 14.17 per cent in gross, but an increase of 23.69 per cent in operating costs. Of the increased expenses, \$26,338 went for coal at abnormally enlarged prices. The subject is rapidly crystallizing to a point where the public utility managers will have to get together and go before the various state commissions for relief. They may very properly use the argument that, if their companies are to be regulated as to rates, the fuel companies from which they buy should also be compelled to standardize fuel prices."

## Standard Sizes of Catalogs

Technical Publicity Association, Which Includes  
Prominent Manufacturers in Its Membership,  
Adopted Four Sizes as Standard More  
Than Three Years Ago

In 1913 the Technical Publicity Association, through its standard size catalog committee, made a careful investigation of the various sizes of catalogs in use, and after considerable correspondence with paper manufacturers, with machinery and supply houses, and with a number of technical societies and associations, adopted 3½ in. x 6 in. for postal cards and envelop inclosures, 8 in. x 10½ in. for bulletins, and 6 in. x 9 in. and 8½ in. x 11 in. for catalogs. As the association includes many of the largest manufacturers in the electric railway industry, such as the General Electric Company, Westinghouse Electric & Manufacturing Company, Western Electric Company, H. W. Johns-Manville Company, Crouse-Hinds Company, the Texas Company, the Ingersoll-Rand Company, the C. W. Hunt Company, the Goldschmidt Thermit Company, the J. G. Brill Company, the Cutler-Hammer Manufacturing Company, and many others, it is interesting to note the progress made by these various firms in regard to following out the standards as prescribed by the T. P. A.

The J. G. Brill Company, through its publicity manager, S. M. Wilson, recently said: "It is undoubtedly very desirable to have all publications standardized for the convenience of those who must file large numbers for reference purposes, and we have endeavored to follow standard dimensions in all possible cases. The Brill magazine, which serves as a bulletin or running catalog of our products, as well as having a magazine character, has been 6 in. x 9 in. throughout the ten years of its existence. For the last year or two we have been issuing bulletins covering individual types of trucks, classes of cars, and special features. These are made 8 in. x 10½ in., which is the standard bulletin size, to enable them to be inserted in 8½-in. x 11-in. binders. As a member of the T. P. A. I voted for these standards, and can assure you that technical publicity managers everywhere are heartily in favor of them not only because of the convenience in filing by the users of such literature, but because they enable paper stock to be cut with less waste."

According to W. D. Lindsey, assistant advertising manager of the Western Electric Company, one exception to the standards of the T. P. A. has been employed. He said:

"We have practically adopted for postal cards and envelop inclosures the size 3½ in. x 6 in., but when it comes to catalogs, we are compelled to adopt a size 6½ in. x 9½ in. for our annual book, because the size of our type page, of which we had a thousand or more in standing form, was 5½ in. x 8½ in.—in other words, too large to set on a leaf 6 in. x 9 in. In order to save the enormous expense of resetting all these pages, we chose the 6½-in. x 9½-in. size book. We want to follow the T. P. A. standards, but it so happened that we could not do it at that time, nor can we as yet, because pages set up since have been made to correspond with the old standard, namely, 5½ in. x 8½ in. for the printed matter."

H. M. Davis, manager of the advertising department of the Sprague Electric Works of the General Electric Company, says: "Our publications have been standardized to the following dimensions: Small envelop size, 3½ in. x 6 in.; large envelop size, 4 in. x 9 in., and bulletin size, 8 in. x 10½ in. When we publish an elaborate bulletin or catalog bound with a hang-over cover, the dimensions have exceeded by ¼ in. to ½ in. the 8 in. x 10½ in. size."

Another company that deviates from the T. P. A. standards in one instance is the Cutler-Hammer Manufacturing Company. George J. Kirchgasser, its advertising manager, writes: "Some time ago the catalog covering our products was changed so that we now have what we call price and data bulletins which measure 4 in. x 7 in., and contain condensed information, while our descriptive literature is all in the 8½-in. x 11-in. size. The small folders that we use for envelop inclosure are usually 3¾ in. x 6 in. We have had some trouble in supplying sheets to electrical supply jobbers because of the fact that the size of their catalog is about 8½ in. x 10 in."

C. W. Hunt Company, Inc., through George K. Jenckes of the advertising department, says: "Our standard catalog size for some time has been 6 in. x 9 in., and our postal cards and envelop inclosures 3½ in. x 5½ in. We expect to use these sizes in all of our work wherever possible."

Lastly, Charles A. Hirschberg, publicity manager of the Ingersoll-Rand Company, who has recently been elected president of the T. P. A., says: "The writer has for some years subscribed to the resolution of the standard sizes for catalogs and advertising literature. All of this company's literature is in accordance with the T. P. A. standards."

## Decrease in Exports for February

Exports of electrical goods were less in value in February than in any month since last July. The February exports amounted to \$3,526,269, or about \$1,400,000 less than in January. In comparison with February, 1916, however, there was an increase of \$1,000,000.

For the eight months ended February, 1917, the exports of electrical goods totaled \$31,744,237, in comparison with \$18,151,223 for the corresponding period ended February, 1916, and \$12,205,421 for that a year previous.

The total exports for the first two months of the current year amounted to \$8,439,193, as compared with \$5,163,433, for the first two months of 1916. Should the exports for the remainder of the year keep up at this rate, the 1917 figures will total over \$50,000,000.

## G. E. Appoints Sales Manager

J. R. Lovejoy, vice-president of the General Electric Company, has announced the appointment of John G. Barry as general sales manager of the company. Mr. Barry entered the employ of the company in the production department of the Thomson-Houston Company, at the Lynn Works. He then became connected with the Boston District office, and later was transferred to the general office in New York City. He went to Schenectady at the time the general offices were moved to that city. He has held the positions of assistant manager of the railway department, superintendent of construction, and manager of the railway department. Mr. Barry has been a resident of Schenectady for the past twenty years and his host of friends will be glad to learn of his advancement and increased responsibilities. Mr. Barry continues his present duties as manager of the railway department.



### National Defense Committee Reports

Under date of April 30 the American Electric Railway Association's special committee on national defense issued a notice in which it said that the steam railroads of the United States had been ordered to give iron ore and coal preference over all other traffic. The committee explained that the reserve stocks of coal in many sections of the country had become depleted owing to an unprecedented consumption during the past year and it recognized the paramount need of the largest possible movement of coal to every part of the country during the coming warm months. The rule states that gondola and hopper cars when made empty must be sent loaded or emptied to or in the direction of the home road. Every movement of the car must be in the interest of apparent return to the home road; if necessary short-routing empty cars without charge.

### NEW YORK METAL MARKET PRICES

	March 31	May 3
Prime Lake, cents per lb.	35	31
Electrolytic, cents per lb.	35½	31
Copper wire base, cents per lb.	42	36
Lead, cents per lb.	9½	9½
Nickel, cents per lb.	50	50
Spelter, cents per lb.	10¾	9½
Tin, Straits, cents per lb.	55½	58½
Aluminum, 98 to 99 per cent, cents per lb.	55	60

### OLD METAL PRICES

	March 31	May 3
Heavy copper, cents per lb.	29	24½
Light copper, cents per lb.	24¾	21½
Red brass, cents per lb.	20	18½
Yellow brass, cents per lb.	19	17½
Lead, heavy, cents per lb.	8	7¾
Zinc, cents per lb.	8	7
Steel car axles, Chicago, per net ton.	\$38	\$41.50
Iron car wheels, Chicago, per gross ton.	\$22	\$24
Steel rail (scrap), Chicago, per gross ton.	\$27.50	\$31.50
Steel rail (relaying), Chicago, per gross ton.	\$34	\$39
Machine shop turnings, Chicago, per net ton.	\$9.50	\$11.00

### CURRENT PRICES FOR MATERIALS

	March 31	May 3
Rubber-covered wire base, New York, cents per lb.	42	36½
No. 0000 feeder cable (bare), New York, cents per lb.	42	36½
No. 0000 feeder cable stranded, New York, cents per lb.	39¾	33¾
No. 6 copper wire (insulated), New York, cents per lb.	39½	33
No. 6 copper wire (bare), New York, cents per lb.	42	36
Rails, heavy, O. H. Pittsburgh, per gross ton.	\$40	\$40
Rails, heavy Bessemer, Pittsburgh, per gross ton.	\$38	\$38
Wire nails, Pittsburgh, per 100 lb.	\$3.20	\$3.50
Railroad spikes, 9/16 in., Pittsburgh, per 100 lb.	\$3.65	\$3.85
Steel bars, Pittsburgh, per 100 lb.	\$3.75	\$4.00
Sheet iron, black (24 gage), Pittsburgh, per 100 lb.	\$4.85	\$6.35
Sheet iron, galvanized (24 gage), Pittsburgh, per 100 lb.	\$6.55	\$7.55
I-beams over 15 in., Pittsburgh, cents per lb.	10	10
Galvanized barbed wire, Pittsburgh, cents per lb.	4.05	4.35
Galvanized wire, ordinary, Pittsburgh, cents per lb.	3.85	4.15
Cement (carload lots), New York, per bbl.	\$2.02	\$2.12
Cement (carload lots), Chicago, per bbl.	\$2.06	\$2.16
Cement (carload lots), Seattle, per bbl.	\$2.60	\$2.60
Linseed oil (raw, 5 bbl. lots), New York, per gal.	\$1.11	\$1.21
Linseed oil (boiled, 5 bbl. lots), New York, per gal.	\$1.02	\$1.22
White lead (100 lb. keg), New York, cents per lb.	10¼	10¾
Turpentine (bbl. lots), New York, cents per gal.	45	52

### ROLLING STOCK

Utah Light & Traction Company, Salt Lake City, Utah, is reported to be considering the purchase of cars.

Southern Pacific Company, San Francisco, Cal., is reported to have purchased six one-man cars for its San José lines.

Georgia Railway & Power Company, Atlanta, Ga., expects to build ten new pay-as-you-enter cars of the latest type. The estimated cost of these cars is \$55,000.

Springfield Street Railway and Worcester Consolidated Street Railway, Springfield, Mass., are reported to be in the market for twenty-two cars.

Twin State Gas & Electric Company, Brattleboro, Vt., has ordered three single-truck cars from the Wason Manufacturing Company.

United Gas & Electric Corporation, New York, N. Y., noted in the April 7 issue as being in the market for sixty-five cars, has placed an order with the J. G. Brill Company

for thirty cars to be distributed as follows: Twelve, Knoxville; twelve, Little Rock, and six, Birmingham. An option for the purchase of the remaining thirty-five cars for the New Orleans properties was included in the agreement.

Interborough Rapid Transit Company, New York, N. Y., noted on page 766 of the April 21 issue of the ELECTRIC RAILWAY JOURNAL as giving the details of equipment of the 477 steel subway cars ordered from the Pullman Company, specified Westinghouse control equipments for all of these cars. This detail was in error, as the order was divided equally between the General Electric and the Westinghouse companies. The General Electric Company will furnish 238 equipments of Sprague-General Electric PC-10 multiple-unit control.

Oklahoma City (Okla.) Railway, noted in the April 21 issue as ordering ten single-truck cars from the American Car Company, has specified the following details for these cars:

Number of cars ordered.....10	Hand brakes,
Type .....Closed motor car	Furnished and installed by
Seating capacity .....32	railway
Length over bumpers.32 ft. 4 in.	Headlights,
Length over vestibule.31 ft. 4 in.	Furnished and installed by
Width over all.....8 ft. 5 in.	railway
Rail to trolley base.10 ft. 9½ in.	Journal boxes .....Brill
Body .....Semi-steel	Sanders,
Interior trim.Dark bronze finish	Brill Dumpit at diagonal
Headlining .....Agasote	corners
Roof .....Arch	Sash fixtures....O. M. Edwards
Axles .....Brill	Seats,
Bumpers,	12 Brill Winner reversible
American Car—Channel iron	and 4 stationary
Car trimmings .....Brill	Seating material...Birch wood
Curtain fixtures.Curtain Supply	Springs .....Brill
Curtain material .....Pantasote	Step treads .....Feralun
Door mechanism.Safety Car	Trucks, type.....Brill 21-E
Devices Co., air operated	Ventilators,
Paint.	Six Brill exhaust per car
To be painted by railway	Wheels .....33 in.

Puget Sound Traction, Light & Power Company, Bellingham, Wash., noted in the issue of March 24 as ordering ten light-weight cars from the St. Louis Car Company, has specified the following details for this equipment:

Number of cars ordered.....10	Fenders or wheelguards...H. B.
Builder .....St. Louis Car	Hand brakes,
Type .....Light-Safety	Blackhall drop handle
Seating capacity .....30	Heaters,
Weight (total).....13,000 lb.	Peter Smith electric trunk pluss
Length over bumpers,	Headlights .....Golden Glow
27 ft. 9½ in.	Journal boxes,
Length over vestibule.	3 in. by 6 in. plain bearing
26 ft. 9½ in.	Motors .....Two GE 258-A
Width over all.....7 ft. 10 in.	Motors .....Inside hung
Body .....Semi-steel	Paint...Painted and varnished
Interior trim .....Mahogany	Registers .....International
Headlining .....Carline finish	Sanders .....Nichols-Lintern
Roof .....Plain arch	Sash fixtures....O. M. Edwards
Air brakes .....Westinghouse	Seats,
Car trimmings...St. Louis Car	St. Louis Car Co.'s light-
Control.....Type GE, K-10	weight stationary
Couplers.Bar type, St. Louis Car	Seating material..Rattan inserts
Curtain fixtures,	Step treads .....Feralun
National Lock Washer	Retrievers .....Ohio Brass
Curtain material .....Pantasote	Trucks,
Designation signs .....Hunter	St. Louis Car lightweight solid
Door mechanism,	forged, single
Safety Car Devices Co. air	Ventilators .....Utility
operated	Wheels.....24 in. chilled iron

Northern Texas Traction Company, Fort Worth, Tex., has specified the following details for fifteen double-end pay-as-you-enter one-man safety motor cars, which are being built by the American Car Company:

Number of cars ordered.....15	Hand brakes.. American Car
Type .....One-man safety car	with Pittsburgh ratchet drop
Seating capacity .....34	handle
Length over bumpers...27' 9½"	Headlights..Golden Glow S-M-95
Length over vestibule..26' 9½"	Journal boxes ..... Brill
Width over all.....8' 0"	Sanders...Keystone air sanders
Rail to trolley base...12' 6"	Sash fixtures...O. M. Edwards
Body .....Semi-steel	Seats, style..Heywood Bros.
Interior trim...Statuary bronze	& Wakefields 57-S-P
Headlining...None, rafter finish	Seating material.Mahogany
Roof .....Arch	wood, steel and canvas-lined
Air brakes,	rattan
Safety Car Devices Co.	Springs ..... Brill
Axles ..... Brill	Step treads .....Feralun
Bumpers...American Car-	Trolley catchers ..... Keystone
channel iron	Trucks, type... Brill 78-M-1 Spe-
Car trimmings..... Brill	cial
Couplers..None—Pull bars used	Ventilators ..... Utility
Curtain material.... Pantasote	Wheels...24 in. diam., 2½ in.
Designation signs..... Hunter	tread, 5/8 in. flange
Door mechanism.Safety Car	Special devices—Faraday high
Devices Co., air operated	voltage push button system

Tacoma Railway & Power Company, Tacoma, Wash., noted in the April 28 issue, page 809, as giving the details of equipment for twenty-eight single-end, one-man cars, specified American Car Company's door-operating mechanism instead of Safety Car Devices Company's air-operated mechanism.



## TRADE NOTES

National Conduit & Cable Company, New York, N. Y., has changed the location of its Chicago office from 72 West Adams Street to the Rookery.

Charles M. Crofoot has been transferred from the post of district sales manager of the Cincinnati office to the New York City office of the Crouse-Hinds Company.

Atlantic Insulated Wire & Cable Company, New York, N. Y., announces the removal of its general sales office from 120 Liberty Street to the Vanderbilt Concourse, 52 Vanderbilt Avenue, New York City.

Verne W. Shear & Company, Akron, Ohio, sales engineers, have established a branch office in the Illuminating Building, Cleveland, Ohio, in charge of Bon J. Ballard, formerly with the H. W. Johns-Manville Company.

Safety Car Devices Company, St. Louis, Mo., has received an order for two sets of its air-brake and safety control equipment from the Massachusetts Consolidated Railways, Greenfield, Mass.

Railway Improvement Company, New York, N. Y., announce that its coasting recorders are being installed on all of the cars of the Houghton County Traction Company, Houghton, Mich., and the Cape Breton Electric Company, Ltd., Sydney (N. S.) Canada.

H. A. Howard, for many years connected with the C. & C. Electric Company, and until recently associated with the Diehl Manufacturing Company, has been appointed manager of the New England office of the C. & C. Electric & Manufacturing Company.

John C. Dolph Company, Newark, N. J., manufacturer of insulating varnishes, announces that the Dolph Manufacturing Corporation of 39 Cortlandt Street, New York City, has been appointed general sales representative of the company and all sales will be handled through this corporation hereafter.

Dr. W. F. M. Goss has resigned as dean of the College of Engineering, University of Illinois, to take up the duties of president of the Railway Car Manufacturers' Association. Temporarily he will be located at the office of the association, 1120 Frick Building, Pittsburgh, Pa.

C. H. Holden has been made central district manager for Edwards & Company, Inc., New York City, and has established a sales office at 9 Clinton Street, Chicago, Ill. Mr. Holden was formerly sales manager for the PR Manufacturing Company, and has had long experience in the sale of electrical specialties.

T. F. Webster, for twenty-five years associated with the Link-Belt Company and for the last twelve years manager of its Pittsburgh office, has resigned to become vice-president of the R. H. Beaumont Company, Philadelphia, builder of conveying and hoisting systems. Mr. Webster will be identified with the sales department.

Barron G. Collier, of Barron C. Collier, Inc., on behalf of the street car advertising operators, has offered to Secretary of the Treasury McAdoo the free use of one card in a campaign which will cover the whole United States. This offers an opportunity for the government to use without expense excellent advertising space in more than 35,000 cars throughout the country for the display of notices in regard to the sale of the new bonds or any other purpose desired by the government.

C. W. Forbrich, Western manager of the *Electrical Review* and *Western Electrician* since 1908, has resigned his position and formed the Forbrich-Burton Advertising Service, Inc., Monadnock Block, Chicago, Ill. J. H. Burton, who was formerly connected with the *Western Electrician*, has been in charge of the service department of *Practical Engineer* for the last few years.

Underwriters' Laboratories, New York, N. Y., announces that on May 1, 1917, the New York office and testing station of the Underwriters' Laboratories will be moved from 135 William Street and 92 Vandam Street to the twelfth floor of the Evening Mail Building at 25 City Hall Place, where increased space and the location of offices and laboratories in the same building will afford improved facilities for the conduct of its work.

## ADVERTISING LITERATURE

National Lamp Works of the General Electric Company, Cleveland, Ohio, is distributing bulletin 28, descriptive of show window lighting.

Diamond Power Specialty Company, Detroit, Mich., has issued bulletin 125 on the application of its Diamond soot blowers to the boilers of the Babcock & Wilcox Company.

Westinghouse Church Kerr & Company, New York, N. Y., are distributing a bulletin, "Only a Week's Interruption by Fire," in which the ability of this organization to meet unexpected emergencies is illustrated.

Gold Car Heating & Lighting Company, New York, N. Y., is distributing a booklet on its thermostatic heat regulating systems. This method is described and a chart showing the even temperature obtained by its use is given.

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., has prepared leaflet No. 3978, descriptive of its type HB overhead relays. These relays are designed for use on high-voltage circuits, and are for indoor use, offering ample protection and sufficiently accurate time element for ordinary service.

American Steam Conveyor Corporation, Chicago, Ill., has issued a thirty-two page booklet giving a general description of American steam jet conveyors showing detailed views of the fittings used in this system, blueprints illustrating the system installed in different parts of power plants, and photographs of numerous central station and industrial plant installations of the system.

General Electric Company, Schenectady, N. Y., has issued bulletin 58329A on frame parts and grids for type IG resistors. It has also issued bulletin 44406A on GE-247 ventilated commutating pole railway motor. This 40-hp. motor is built in forms suitable for trucks with wheels 24 in. in diameter and is, therefore, well adapted both in characteristics and design for low-floor cars and for a considerable range in types of light and moderate-weight cars operating under all conditions of city service.

Electric Service Supplies Company, Philadelphia, Pa., has just issued a new and very comprehensive catalog on "Golden Glow" railway headlights and projectors. This catalog includes a complete line of dimming and main resistances, switches and other headlight accessories necessary for use in connection with railway headlights. This is a sixty-four-page book printed in two colors, and in producing it much effort has been expended in duplicating in appearance the different headlights. It was found particularly difficult to illustrate with printers' ink the "Golden Glow" reflector, which is of a greenish-yellow color.

Canton Culvert & Silo Company, Canton, Ohio, has recently issued a pamphlet containing abstracts from the company's files that indicate the popularity and adaptability of the company's nestable corrugated No-Co-Ro metal culverts. A feature of the pamphlet is a letter from the Union Traction Company of Indiana in which it is said that the results obtained with these culverts during three years of use indicate that deterioration is not likely to commence for many years. Another letter from the Kanawha Traction & Electric Company, Parkersburg, W. Va., states that culverts of this type installed during the summer of 1909 showed no signs of corrosion or failure in November, 1916.

## New Publications

**Government Telephones.** By James Mavor. Moffat, Yard & Company, New York, N. Y. 176 pages. Cloth, \$1 net.

In this book Mr. Mavor, who is professor of political economy in the University of Toronto, relates in detail the fatal weaknesses of government ownership as illustrated by the experience of the Province of Manitoba with telephones. The author charges that the management has been uneconomical, the enterprise handicapped by political intrigue, the finances unsoundly administered and the obligations of the public increased without adequate compensatory advantages. The book seems to be a careful attempt to uncover the facts of an interesting experiment, and as such is a valuable contribution to the general discussion on government ownership.