

Electric Railway Journal

Consolidation of STREET RAILWAY JOURNAL and ELECTRIC RAILWAY REVIEW

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Number 13

"Daylight Saving" Can Help in the Peak-Flattening Crusade

WHEN this issue of the JOURNAL reaches its readers the "daylight saving" law will be in operation. The slight inconveniences incident to pushing the clock hands forward an hour will have already been overcome. To be sure, the early risers will feel for a while that, as far as the light is concerned, it is February instead of April, but the sensation will be no more than that due to a journey across a railroad time-zone boundary, or from a residence on the eastern slope of a mountain to one on the western slope.

The relations of daylight saving to railway operation have been covered thoroughly in previous articles in this paper. There is an additional phase of the subject which is worthy of attention now.

Electric railways in many parts of the country are taking the initiative in persuading merchants and manufacturers to modify their opening and closing hours to permit the railways to give better transportation service. The inauguration of "daylight saving" should assist them in this worthy effort. While the new clock time will go into effect with perfect smoothness, it remains true that the relation of "sun time" to clock time will be different. Some of those whose present working schedule fits in best with the natural lighting under the present clock time will have a tendency to maintain their previous relation to sun time; in other words to begin and close an hour later *by the clock* than formerly. If some users of the electric cars change their schedule and some do not, obviously the load peak will be flattened—in other words, the "diversity" will be increased. During the next few days, therefore, railway managers should take advantage of the period of transition to secure peak-flattening co-operation which at other times might be out of their reach.

Buy Liberty Bonds and Help Sell Them to Others

THE third Liberty Bond sales campaign begins next week, Saturday. The government needs money just as it does men, and to be successful in the war we must raise \$3,000,000,000 as requested by Secretary McAdoo. To symbolize the situation, we are publishing a supplement with this week's issue illustrating how, if all pull together, it will be possible to haul the Kaiser off his pedestal.

The popular slogan during the coming three or four weeks will be "Buy Liberty Bonds." Electric railways, as far as their restricted resources will allow, will do their full duty in this respect, just as they eagerly did

in connection with the First and the Second Loans. But they can do much more; they can help to promote the success of the Third Loan by inducing others to buy bonds.

Electric railways are in an especially good position for presenting to employees and patrons the merits of Liberty Bonds. Through their regular publicity channels, through their ready means of close contact with employees, they can easily emphasize the need of monetary support to the last dollar. Indeed, as is shown elsewhere by the result of our canvass among some representative electric railways, the companies, by their work in the two previous loans, have already accomplished most if not all of the fundamental work necessary in educating people to become bond buyers. Now, therefore, they can make their main talking point the amount of bonds to be purchased, rather than the question of purchase itself.

The result should be increased sales. We hope so, for the government needs unmistakable evidences of the most loyal support. Does money talk? Then make it shout loudly enough to be heard in Berlin!

Why Not Form Company Sections During War Time?

WE ARE pleased to note that the Rhode Island Company plans to form a company section of the American Electric Railway Association. It is more than a year now since the last company section was born, although during the three years preceding the formation of the Toledo section on Feb. 15, 1917, new sections were seeing the light at the rate of one every four and one-half months. As has been said in these columns before, if company sections are a good thing in time of peace they are or should be doubly good in war time. The function of the company sections is to increase the value of employees to the electric railway and at the same time to furnish new sources of inspiration and education to the men themselves. Of course, these two things go together because a man cannot be a more useful employee without being happier in his work, and *vice versa*.

It was inevitable that a slowing up of the activities of those interested in pushing the company section movement should have accompanied the putting of our country on a war footing. This, however, is now rapidly being accomplished and company section work should again begin to expand. Company sections should be organized as a war measure, if for no other reason, because they furnish the auspices under which patriotic movements can be furthered. This fact was clearly illustrated in the review of a year's work of the com-

pany sections printed in the issue of the *ELECTRIC RAILWAY JOURNAL* for Oct. 27, 1917, page 767. No other proof of the fact that these groups of enthusiastic men are contributing as groups to the winning of the war should be necessary.

The best way for the movement to spread is through the contagion of enthusiasm as has evidently happened in the present case. The highly efficient Connecticut Company section has apparently inspired the desire for an organization on the part of employees of the neighboring Rhode Island Company. It is significant that the evening of March 21 was "Rhode Island Night" in the Connecticut Company section, a suggestion of hospitality and propaganda to other sections. The best wishes of the *ELECTRIC RAILWAY JOURNAL* go out to the new section, which will be No. 12, and as it has done in the case of the other sections the paper will do everything in its power to further the work of this one.

Cars Earn Money Only When On the Road

CLOSELY connected with standardized cars is the question whether such a car should be built to last, say, ten years or thirty years. We would say emphatically: For not more than ten years. It has been one curse of the electric railway industry that so much weight—and therefore money—was tied up in a car that it was financially impossible to take full advantage of progress in the car builders' art. Almost everywhere we see systems, a line-up of whose rolling stock reveals the history of electric railways from Van Depoele to date. The operators on these roads know full well that two, or even three, of these veteran cars are not equal in mileage revenue production to one new car. But the operating company usually has already sunk so much money in these veteran cars that when it comes to changing to one-man operation, for example, the management will spend \$1,500 on each of three old-timers, or \$4,500, instead of buying one new car of equivalent mileage possibilities for \$5,500 to \$6,000. Is it really easier to find money for such foolish rehabilitation and higher operating costs than to buy or rent new cars? If it is, a magnificent banking opportunity is being overlooked.

We have spoken of the new car as being three times as good in mileage production as an old car. This is not an exaggeration. We do not confine ourselves to schedule speed alone but have in mind the frequency with which the old cars are laid up for days at a time. The trouble is that too many managers look at cars from a mechanical viewpoint instead of one based on their transportation or mileage-production capabilities. The fact that a car has served fifteen years doesn't mean much unless we know whether it has averaged 10 miles or 100 miles a day during this period.

Herbert Spencer has said that human life should be measured by breadth as well as length. So may we say that car-life should be measured not only by years but also by miles. It is better to build a car light and operate it so intensively that it will average 50,000 miles a year for ten years and then replace it out of savings by the very latest type, than to get the same mileage in a generation out of a lumbering schooner. "Better fifty years of Europe than a cycle of Cathay!"

More Attention Should Be Paid to Transfer Problems

THE transfer question will not down. It is so inseparable a part of the financial side of the traction industry that wherever the matter of adequate revenue is under consideration the extent to which transfers are used must also be studied. This was done for the benefit of the Massachusetts Public Service Commission by Mr. Beeler in his report on the Boston situation, with most interesting results.

The Boston management has been progressive in fare collection methods and has given serious consideration to means of checking abuse of the transfer privilege. The combination of rapid transit and surface car systems had made this problem a complex one. The company has done more than any other, perhaps, to extend the use of prepayment stations which provide for bodily transfer of passengers and a consequent reduction in the use and abuse of paper transfers. Nevertheless, the annual loss from the abuse and misuse of transfers has been estimated by the company as between \$200,000 and \$250,000.

Whether or not the recommendations made by Mr. Beeler for a reduction of this loss will prove effective under the "local conditions" of Boston, the fact remains that the transfer privilege is always possible of abuse, and railway managers everywhere must place more safeguards over it. Potentially every transfer ticket is equivalent to a 5-cent fare, and wherever it is used by any one who is not entitled to it in lieu of fare payment, the company is defrauded by the full amount of the fare and has just the same operating expense as though it had received cash.

To effect a reform in transfers, the most important thing, first of all, is to forget that a transfer ticket is "free." Employees must be impressed with the fact that it represents value, and considerable value. If a company pays 20 cents a thousand for printing them and then redeems from the persons who have secured them fraudulently the cost of transfers to the company is not 20 cents but \$50 a thousand.

One of the most useful committees of the Transportation & Traffic Association is the one which has been reporting for years past on the question of fares and transfers. Time and again members of that committee found an apparent indifference on the part of railway operators when inquiries were being made as to transfer practice. The same operators may have been keenly alive to methods for safeguarding cash fares, but to them a transfer was a mere bit of paper—a token which entitled the holder to a continuing ride under certain conditions. It did not seem to matter if an unscrupulous employee gave a bunch of them to his friends, and if a passenger occasionally imposed on the conductor by making a round trip for one fare. That was "only an incident of the business." Statistics showed that transfer passengers during a ten-year period increased at more than twice the rate of revenue paying passengers, yet the necessity of protecting the transfer was not generally appreciated.

A communication which appeared in the Nov. 10, 1917, issue of this paper, page 866, was intended to call attention to these conditions. A careful rereading of that article would not be lost time for the railway man. If the Boston system is losing \$200,000 or

more each year through its transfers, it is not unlikely that other companies are failing to secure a large amount of cash which they ought to receive from passengers. To obtain this cash it is possible that the legitimate use of the transfer privilege may have to be restricted, and it is certainly true that its misuse ought to be minimized. The possibilities of securing additional revenue through this channel should not be overlooked.

What the War Finance Bill Will Do and Will Not Do

THE conference on the war finance bill between the representatives of the House and the Senate has been continued this week, and possibly by the time this paper comes to its readers agreement upon its final form will have been reached and the bill passed by both branches of Congress. The time will be none too soon to help the public utilities of the country which have maturing obligations to meet.

That such help should be granted by the government is obvious. If it were not for the needs of the government in financing itself, these obligations could be met. But with the government loans monopolizing the money market, and properly so, the utilities naturally have to stand aside.

But the passage of the war finance bill does not mean that the government will necessarily assume all of the burden of caring for all of the obligations of solvent public utility companies which mature during this period of financial stringency caused by government borrowings. Owners cannot shift the whole burden on Uncle Sam even if they wish to do so. Although the bill has not yet been enacted into law, it is evidently the intention of the government to put a considerable portion of the onus of caring for these maturities on those directly interested in the properties. They must show this faith and do their share in behalf of their own enterprise. It is only after they have exhausted every reasonable effort to refinance their property through the regular banking channels that the federal government may be called upon for help. The announcement on March 28 by Mr. McAdoo of the terms on which the government is taking up the New Haven notes gives explicitly the reasons for the action taken in that case.

This does not mean, however, that a company ought to be obliged to defray all of the expenses of preparing its property to take care of war business. This is an entirely separate question from that of refinancing, but it is one which is being faced by a number of companies at the present day. They are so situated that additions to their equipment, say, for transportation or power, would be very useful to war workers in the present emergency. They realize, however, that this service is not profitable in itself and that the additional equipment will cost perhaps double its normal price if installed now. In such cases we believe the government can properly look upon the extra expense as a war charge and as such assessable on all the taxpayers rather than solely upon the owners of the particular utility concerned. Otherwise, a company which undertook this work would be greatly handicapped after the war if it should have to meet in competition a new company with equipment purchased at normal prices.

Conserve Resources by Reducing Waste of Unprofitable Lines

“THE history of street railway development throughout the country has shown very clearly that many lines have been built which should never have been constructed.” In these words the Street Railway Investigation Commission, which recently reported on problems relating to street railways in Massachusetts, summarized an unhappy story which is ancient history in some cities and current fact in other localities.

Everyone is familiar with this feature of the early development of transportation when the success of some projects made it appear that electric railways could make money almost anywhere. Such experiments were not always a success, and when these non-paying lines were later merged into a large system they frequently continued as a burden for which the charges had to be carried by the rest of the property.

We have already spoken of the desirability of slowing up on extension work during war times. For the same reason electric railways can well be permitted to cut down or even temporarily abandon operation on some of their unprofitable routes. The special Massachusetts commission, in discussing this subject, mentioned several alternatives, one of which was that in case the continuance of a line is sufficiently important to the community the company could receive some form of subsidy or community assistance. This might be arranged for in certain instances and would appear to be a reasonable solution. The Oregon commission in the Portland case referred to an instance of subsidies which had proved insufficient to cover losses of operation on certain routes.

It is a simple matter to tell whether a line is on a paying basis. The disproportion between car-miles and earnings per mile will show this, and if the figures for a system are carried also on a car-hour basis the manager will come pretty close to knowing what parts of the road are bringing in the net income.

There are cases where the public authorities designate what extensions should be built. This arrangement must not be criticized if the new lines are constructed where they meet the traveling needs of the community. If it should develop, however, that mistakes have been made in choosing certain locations for service the public should see that the wrong is undone. It may be necessary to tear up the rails for junk and abandon service in that district.

Neither the company nor the people should tolerate such examples of non-paying lines as one mentioned in Massachusetts where it costs nearly 50 cents per passenger, and another where the taxes alone amounted to more than the gross receipts. Rather should they adopt the frequently commended plan of Cleveland where when real estate promoters desire to enhance the value of their land by providing transportation facilities, they furnish money to the company to build the desired extensions, and in some cases pay deficits on these lines until they become self-sustaining parts of the property. Such plans are worthy of serious thought, especially in these times when economies must be practised to the limit to make even the most heavily traveled lines pay a fair return on the investment.

The Cause Is Holy; the Effort, Timely

By T. P. SHONTS

President Interborough Rapid Transit Company, New York, N. Y.

TO THOSE who appreciate the value of service—in the highest sense of the word—the Third Liberty Loan campaign offers both opportunity and inspiration. The opportunity lies in the timeliness of effort for the general welfare, and the inspiration in the holiness of the cause.

Now, more than ever before, the need for indomitable courage presents itself. With the progress of the great war the complications resulting have become so numerous and vital as to emphasize most strongly the urgent need for every man to do his full duty. It has been impressed upon us by one incident after another that the great goal we have before us, the winning of this war for freedom, can be attained only through whole-hearted co-operation and exertion by every one of our citizens.

To those accustomed to the vagaries of public demand, especially in a field so wide as that of public utilities and so open to criticism, these considerations should have a special appeal. The man who expects a challenge every few minutes of the day, or a delegation of irate citizens every few hours, or a complaint from an official body every few days, has gained experience which should stand his country in good stead in this hour of need.

He has learned the lesson of serving others, and can adapt it and mold it to patriotic uses now. He can be of tremendous aid in spreading the gospel of the Liberty Bond. In hundreds of ways he can assist in this campaign to provide the funds needed in our great emergencies, whether it be by advertising methods or other-

wise. And in doing these things he can have a satisfaction more real than the cheerful feeling that pervades him when he is able to meet the needs of the public in his own field of activity.

To the patriotic man in the public utility field today service in the great Liberty Loan campaigns should and must be regarded as a point of honor, just as completely as service in our military and naval forces is regarded as a point of honor among our brave young men. To the hundreds of us who have relatives and friends at the front it is almost unnecessary to say these things. For the others, too, it probably is unnecessary to emphasize these things, and yet it cannot be amiss to direct attention to them anew at this time.

Service in the great Liberty Loan campaigns must be regarded as an inspiration of the highest kind. It carries us away from the sordid view of life and makes us feel that we can capitalize in a most material sense the sum total of our experience, and capitalize it for a holy cause.

Needless to say, a large amount of the Liberty Bonds of the Third Loan will be purchased by the men in the traction field, but let us feel that our duty does not end there. Let us go further and do all that is in our power to get others to buy them—particularly those who have been able as a result of conditions to increase their earning power beyond all records. This refers especially to the various classes of workers whom it is ordinarily hard to reach in any campaign for the sale of investments.

How the Electric Railways Have Been Fostering the

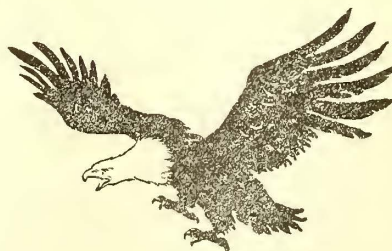
Canvass Among Representative Companies Shows Eager Desire to Aid Employees to Buy Bonds

CHICAGO (ILL.) SURFACE LINES

L. A. BUSBY, *President*

On Oct. 10, before our Second Liberty Loan campaign, we issued a bulletin urging subscription by employees. A \$50 bond could be paid for at the rate of \$1 a week, or \$2 each semi-monthly pay day. Interest was allowed to employees on their payments at the rate of 4 per cent. The company offered to hold employees' bonds without charge for safe keeping, subject at all times after payments to the order of the owner.

Subscription blanks were furnished by receiving clerks and superintendents. As a result of the campaign, according to a bulletin issued on Oct. 27, more than 12,000 employees, over 90 per cent of the entire organization, subscribed to the Second Liberty Loan. The total of these subscriptions amounted to \$825,400.



In the transportation department, out of a total of 9277 men, 8876 men, or over 95 per cent, subscribed a total sum of \$558,750. In several of the divisions, every man subscribed. In every department the average was high.

"The supreme test of the nation has come. We must all speak, act and serve together."

—PRESIDENT WILSON

NEW YORK STATE RAILWAYS, ROCHESTER, N. Y.

JAMES F. HAMILTON, *Vice-President*

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We conducted our campaign for subscriptions through the heads of departments, each one making a personal solicitation among those under him. We posted advertising matter conspicuously on the property, and, in addition, each employee was seen in person.

Make the Liberty Loan Your Business

BY T. S. WILLIAMS

President Brooklyn (N. Y.) Rapid Transit Company

WHILE the war has brought inconvenience and sorrow to many homes, it has done much to foster a general appreciation of the value of unselfish public service. The emergency now faced by the nation calls for "team work" to such a degree that the doctrine of public service has been spread much more widely than was possible before the conflict started.

In other words, the public actually has learned to appreciate public service through having been forced to take part in it in a most thorough individual sense. Every good American to-day feels that whatever he can contribute to the success of the war in any field of activity constitutes the very least he can do. To a very great extent, the activities behind the battle lines call for unstinted co-operation, but at home the need for individual effort is much clearer and much more easily realized. Every one of us, for instance, recognizes that a boon can be conferred upon our armies by doing Red Cross work or work in some other field contributing to the comfort and safety of our troops. In undertaking work of this sort, each of us realizes that it represents a service to the country, as well as a service to the individual units of our fighting forces.

The Third Liberty Loan campaign presents an ideal opportunity for the rendering of similar public service. There are two ways to help in this great campaign. One is by buying the bonds and the other is by getting other people to buy them. In the long run, the man who encourages and persuades others besides himself to invest in these bonds is doing as great a service to the United States as if he made the total purchase himself.

The reason for this is that so far as the United States is concerned, the battle in which we are engaged to-day is distinctly a war of the people, by the people, for the people. Each of us will benefit equally by the overthrow of the dangerous forces now in control of Germany's future. In return for the common enjoyment of the privilege of freedom, it is the duty of everyone to work for the maintenance of the form of government which makes them possible. While that duty constitutes something which he should do for himself, it also demands from the average citizen the expenditure of effort in behalf of the entire nation. In this sense he is doing a public service when he promotes the success of Liberty Bonds, and he can promote it to the fullest extent by inducing his fellow citizens to understand it.

The tremendous support to be gained by the government through a very wide distribution of the new Liberty Bonds would be as great an argument against Kaiserism, as great a blow to the hopes of the Hun, as could possibly be given.

It, therefore, becomes the duty of each of us to adopt the Liberty Loan campaign as part of our personal business and to regard its promotion as being part of our own responsibility. The two elements of duty involved—that is, buying as many bonds as we can afford ourselves, and then getting others to buy their proportionate amount—are so thoroughly interwoven that they can hardly be distinguished. If one is considered, the other must be inevitably accepted. The opportunity is before us to justify our claim to be citizens of a free country, and the moment must not be neglected.

Liberty Loan Spirit Among Their Employees and Patrons

Companies Are Planning to Push Third Campaign
When Details of New Bond Issue Are Announced

TWIN CITY RAPID TRANSIT COMPANY,
MINNEAPOLIS, MINN.

EDWARD KAROW, *Assistant to President*

During both the First and the Second Liberty Loan campaigns we gave a considerable amount of free advertising space in our cars and buildings for the benefit of the loan. We also posted bulletins at our various car-houses, shops and office buildings, outlining plans whereby employees could subscribe to the Liberty Bonds on easy payments, which would be deducted from their pay checks.

Department heads and foremen had subscription blanks. The company purchased from the government such bonds as employees might wish to order through the company, and allowed the employees one year in which to pay for them, in regular installments. During this year the company allows the purchasers 4 per cent interest on



the money paid in on the account. During the first campaign the plan was new and did not take as readily as during the second campaign. Then the subscriptions were extremely heavy. We are planning to follow the same general arrangements during the Third Liberty Loan campaign.

Shall we be more tender with our dollars than with the lives of our sons?

UNION TRACTION COMPANY OF
INDIANA, ANDERSON, IND.

W. H. FORSE, *Secretary and Treasurer*

We made a campaign among our employees for subscriptions to the Second Issue of Liberty Bonds, and more than 500 of them subscribed for sums ranging from \$50 upward. Most of the subscriptions were for \$50 each.

The company agreed with the employees that payments could be made at the rate of \$1 a week for each \$50 face value of bonds purchased, deductions to be made semi-monthly from the pay checks. It was further agreed that in the event a subscribing employee left the service of the company or was unable to complete the payment as agreed, the company would, upon written request, refund the amount paid and cancel the subscription.

It is probable that the same plan will be followed for the Third Loan.

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Department heads and foremen had subscription blanks. The company purchased from the government such bonds as employees might wish to order through the company, and allowed the employees one year in which to pay for them, in regular installments. During this year the company allows the purchasers 4 per cent interest on



the money paid in on the account. During the first campaign the plan was new and did not take as readily as during the second campaign. Then the subscriptions were extremely heavy. We are planning to follow the same general arrangements during the Third Liberty Loan campaign.

"Shall we be more tender with our dollars than with the lives of our sons?"

UNION TRACTION COMPANY OF
INDIANA, ANDERSON, IND.

W. H. FORSE, Secretary and Treasurer

We made a campaign among our employees for subscriptions to the Second Issue of Liberty Bonds, and more than 500 of them subscribed for sums ranging from \$50 upward. Most of the subscriptions were for \$50 each.

The company agreed with the employees that payments could be made at the rate of \$1 a week for each \$50 face value of bonds purchased, deductions to be made semi-monthly from the pay checks. It was further agreed that in the event a subscribing employee left the service of the company or was unable to complete the payment as agreed, the company would, upon written request, refund the amount paid and cancel the subscription.

It is probable that the same plan will be followed for the Third Loan.

WASHINGTON RAILWAY & ELECTRIC COMPANY, WASHINGTON, D. C.

L. B. SCHLOSS, *Publicity Agent*

For the First Loan we did not enter into an extensive campaign among our employees, with the result that but 160 employees subscribed \$15,750 to the issue. The company, however, subscribed \$5,000, making a total subscription of \$20,750. A refund of \$877 has been made to employees who have left the employ of the company, or enlisted in the government service, or found themselves unable to keep up their payments.

The bonds were purchased by the company and sold to employees on a partial-payment plan. A white card [shown on page 606] was used to record the agreement and the payments. The plan provided for weekly, semi-monthly or monthly installments. A special partial-payment plan with pink cards was devised for trainmen. These men agreed to pay \$5 a month until the payments equaled the subscription, plus accrued interest at 4 per cent on the total and less 4 per cent interest on the installments from the dates of payment. In the event of discontinuance of payments, the company agreed to refund the amount already paid, without interest, in cash or in bonds plus cash, according to whether the total of the payments would permit the purchase of a bond.

In the case of the Second Loan we entered into an extensive campaign, with the writer as chairman of a committee of eighty employees, selected from all departments. Bulletins were sent to each member of the committee daily. As a result of the work, 745 employees subscribed \$44,900. In addition the company purchased \$50,000 of

the issue. Up to March 1, \$1,772 had been refunded to subscribers for the same reasons as in the case of the First Loan.

We carried dash signs on all cars advertising the loans, and regulation advertising matter furnished by the Treasury Department was displayed at our general offices, carhouses and shops. The company also contributed \$500 to the local committee for advertising in the newspapers. Considerable reading matter in the news columns of the newspapers was given to the company for its efforts, which added interest to the campaign among employees.



VIRGINIA RAILWAY & POWER COMPANY, VA.

THOMAS WHEELWRIGHT, *President*

The officials and directors encouraged subscriptions among employees and underwrote subscriptions made on the installment plan. We have advertised the loans as freely as possible through *Public Service News* on the Richmond division and through *Public Service Chat* on the Norfolk division. We have been glad to furnish whatever publicity was desired and have also paid for many page advertisements in the newspapers throughout our territory.

THE CONNECTICUT COMPANY, NEW HAVEN, CONN.

L. S. STORRS, *President*

Through the courtesy of Morgan G. Buckley, president Aetna Life Insurance Company, the Aetna plan for deferred payments on First Loan bonds was afforded to the employees of the Connecticut Company. This plan provides for the monthly payment of 5 per cent of the face value of the bonds subscribed for.

Prior to the active solicitation lists were circulated throughout the various departments. These were signed by individuals to indicate the amount for which they would subscribe. During the days of the active drive arrangements were made at carhouses, shops and other points for gatherings of the employees to be addressed by bond salesmen. This resulted in a total subscription of \$135,850 by 1925 employees. The campaign for the Second Loan was conducted in practically the same way, resulting in a smaller subscription.

No definite plans have yet been devised for the Third Issue, but a very active campaign is conducted constantly for the sale of Thrift Stamps and War Savings Stamps. The president of the company has been appointed an agent for the sale of such stamps, and he has appointed as sub-agents all cashiers, including express cashiers. A plan has been worked out for establishing honor rolls among the cashiers for the greatest monthly sales record, the idea being to recognize in some way the cashier having the best quarterly record.

UNITED TRACTION COMPANY, ALBANY, N. Y.

H. B. WEATHERWAX, *Vice-President*

During the campaign for the sale of both the First and the Second Liberty Loan Bonds our company held meetings at which officials addressed the men. They also in a few cases invited other speakers to address the employees.

The company advanced the money for the purchase of the bonds, and allowed the employees to pay for them on the plan of semi-monthly and monthly payments, the amount of each installment being deducted from the pay. Out of approximately 1580 employees, 1444 or 94 per cent subscribed for bonds to the extent of \$74,150 for the Second Issue.

The company also decorated some of its cars and conducted a parade through the streets of Albany and Troy. Photographs of these cars were published in the *ELECTRIC RAILWAY JOURNAL* of Nov. 10, 1917.

While no definite plans have been decided upon for advertising and assisting in the sale of bonds of the Third Issue, the campaign among our employees will be conducted practically in the same manner as for the previous issues.

GENERAL COMMITTEE
WASHINGTON RAILWAY AND ELECTRIC COMPANY SYSTEM
EMPLOYEE'S SECOND LIBERTY LOAN CAMPAIGN
FOURTEENTH AND STREET, NORTHWEST
WASHINGTON, D. C.
PINK BULLETIN
NO. 6, OCT. 27, 1917.

THE RHODE ISLAND COMPANY
Notice to Employees
SECOND LIBERTY LOAN of 1917

THE COLUMBUS RAILWAY, POWER & LIGHT CO.
BULLETIN
TO ALL EMPLOYEES

NATIONAL BANK OF COMMERCE
COLUMBIA, MISSOURI

ORDER FOR LIBERTY LOAN BONDS

THE TRUST SUPPLY COMPANY

October 16, 1917

Number of Employees
Name
Address
City
State

Received of _____
the sum of _____ Dollars
for the purchase of _____ Liberty Loan Bonds
of the face value of _____ Dollars
at the rate of _____ Dollars per bond.

THE RHODE ISLAND COMPANY,
PROVIDENCE, R. I.

A. E. POTTER,
President and General Manager

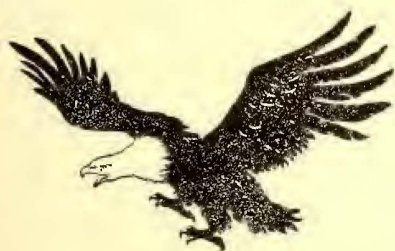
To advertise the Liberty Loans, the Rhode Island Company posted notices announcing the issues and outlining the manner in which the employees might subscribe. [One of the notices is reproduced on page 604.] The payment plan provided for a weekly installment of \$1 for each \$50 bond. The company offered to take care of coupon bonds bought by employees and to collect and pay the coupons. The company expects to follow the same procedure in connection with the Third Loan.

PUBLIC SERVICE RAILWAY,
NEWARK, N. J.

J. L. O'TOOLE, *Assistant to President*

In connection with the First and Second Liberty Loan campaigns we displayed posters in all of our cars and on the bulletin boards at the various carhouses. The company also caused a number of meetings of employees to be held. These meetings were addressed by a representative of the company, who explained in detail what the Liberty Bonds meant and how they could be subscribed for.

The company adopted a plan of carrying employees' subscriptions while the men were making payments at the rate of \$1 a week for each \$50 bond. The employees responded generously in both the first and the second campaigns. No concerted action has been taken as yet with regard to the forthcoming issue, but it is altogether likely that similar efforts will be put forth.



CAPITAL TRACTION COMPANY,
WASHINGTON, D. C.

J. H. HANNA, *Vice-President*

Poster signs were carried on the front of our cars during the first and second campaigns, and notices were posted on the bulletin boards in the various carhouses to induce the men to purchase bonds to the best of their ability. In the second campaign a series of meetings was held in all divisions. Addresses were made by different officers of the company, and some success was attained in the sale of the bonds.

We have made no plans in connection with the Third Loan, but we will undoubtedly advertise it on our cars and bring the matter to the attention of our employees.

INTERNATIONAL RAILWAY,
BUFFALO, N. Y.

E. J. DICKSON, *Vice-President*

The work which we consider most essential in a campaign of this kind is to advertise it thoroughly among our employees before any energy is used in the obtaining of subscriptions. In order to do this we had four or five large posters placed in our carhouses, shops and all other conspicuous places where our employees could not help but be impressed with the vital importance of the sale of Liberty Bonds.

Then we arranged to have literature explaining the reasons why each individual should purchase Liberty Bonds, what the bonds were and how they could be purchased, delivered to each employee together with a letter from the company urging their purchase. This letter explained that the bonds could be purchased through the company for cash or by having a certain amount deducted each week from the pay; also from any bank for cash or by paying so much a week to the bank.

We held several meetings with speakers from the general committee in order to create talk and enthusiasm among the employees. In the meantime we organized committees and sub-

committees through the organization and told the chairmen that we wanted results and that each employee should be seen personally and urged to purchase bonds. All the committee members were furnished with application blanks and the necessary data for answering any questions that might be asked. After the meetings the committees were directed to start the campaign for subscriptions, and in three or

They are doing their best "over there"; we must not fail in our duty over here.

four days each employee on the system was approached in regard to buying bonds. The plan worked so well in the Second Loan that nearly 1500 subscriptions, amounting to more than \$115,000, were obtained.

At the present time we have not made any preparation for the Third Liberty Loan, as we do not know enough about it. We believe that by waiting until the details are worked out and then having a whirlwind campaign for subscriptions better results are secured than by dragging the campaign over several weeks.



THIS IS A MESSAGE TO YOU

ILLINOIS TRACTION SYSTEM, PEORIA, ILL.

E. W. FOWLER,

Assistant to Vice-President Executive

Printed matter descriptive of the bond issues and the purposes to be served thereby was received from the government publicity committee, and copies were sent to each customer of our gas and electric properties, as per the addressograph list. Display cards were posted in our street cars, in our interurban cars and in the offices. Our gas and electric properties have a fixed amount of space contracted for with the newspapers in each community, and this space was used for suitable advertising concerning the bond issues.

All employees were urged to subscribe for Liberty Bonds. While the company purchased outright the bonds so subscribed for, the employee was allowed to make his payments extend over a period of ten months. Thus 5 per cent of the subscription was withheld from each semi-monthly pay check, and interest was allowed on payments so made.



other times as were found more convenient.

In addition this letter, cardboard bulletins urging subscriptions were posted in all the operating stations, shops and offices. These bulletins contained, in large type, but in fewer words, the information in the letters.

KANSAS CITY (MO.) RAILWAYS

PHILIP J. KEALY, *President*

For the First and Second Liberty Bond issues this company carried placards on all cars. These were furnished by the local bond committee, and they carried an emblem identical with that on the buttons.

Blank applications for loans were circulated among our employees. These provided that payment be made in three monthly installments or ten monthly installments, each applicant designating the bank at which it would be preferable for him to pay.

Regarding the third issue of Liberty Bonds, we are going to do something along the same lines.

COLUMBUS RAILWAY, POWER & LIGHT COMPANY, COLUMBUS, OHIO

SAMUEL G. MCMEEN, *President*

We issued several bulletins and pamphlets to employees during the First and the Second Liberty Loan campaigns. Two of these are shown in the illustrations on pages 604 and 607. In the first campaign we used the printed material in connection with addresses on patriotic duty and thrift, these addresses being made by officers of the company, heads of departments, etc. Weekly installments of \$1 per each \$50 bond were permitted, and subscription blanks were filled out by department heads.

We omitted much of the fundamental work in the second campaign, because by that time all our people were more fully informed. We conducted the details through the regular channels of our organization, sending out information and receiving the results just as if the transactions were a matter of detail routine business of our own affairs.

This actually amounted to a test of efficiency between special and standard methods, and we were gratified with the results of the second campaign because they were as good as in the first, and, of course, were secured at much less cost of time and nervous energy. The results in both cases were gratifying financially, and we have felt that our group acquitted itself well.

CHICAGO (ILL.) ELEVATED RAILWAYS

BRITTON I. BUDD, *President*

A campaign was organized and conducted for the first and the second bond issues through the heads of departments, each of whom delegated certain persons to solicit subscriptions. In the shop department shop foremen and clerks assisted in soliciting; in the maintenance of way department the foremen and their clerks handled the subscription list; in the transportation department the superintendents, clerks, trainmaster, dispatcher and others all worked to obtain subscriptions. A point was made to urge each employee to subscribe for bonds.

When the campaign opened, notices were posted in the trainmen's rooms, stations and shops, directing the attention of employees to the advantages of subscribing and urging them to do so. Large supplies of printed matter, setting forth the attractive features of the bonds and urging subscriptions on the ground of patriotism as well as savings, were distributed, a copy being given to each employee.

Two plans of payment were adopted, a cash plan and a deferred-payment plan. Under the cash plan, for the First Loan, the subscriber had until July 15, 1917, to pay for his bond, the subscriptions closing on June 15. For the Second Loan, subscriptions for which closed on Nov. 15, he had until Jan. 15 to pay. The deferred-payment plan provided for twenty equal semi-monthly payments, which could be made either by deduction from wages or salary due the employee, or by cash payment at the treasurer's office. Interest at the same rate carried by the bond is allowed on all payments from the date the cash is received.

There is immediate, urgent, imperative need for every dollar you can possibly spare.

We have consistently encouraged those who have been making payments on the deferred-payment plan to anticipate the payments and take up the bonds before the end of the allotted period.

While our plans with reference to the Third Issue of Liberty Bonds have not yet been perfected, we expect to proceed on the same general lines.

BOSTON (MASS.) ELEVATED RAILWAY

M. C. BRUSH, *President*

Upon the announcement of the First Liberty Loan, our company appointed a committee to carry out a very active campaign throughout the entire property. Arrangements were made by this committee with the Second National Bank to take over the entire subscriptions of our employees. Many posters were distributed and displayed at our offices, carhouses, power stations and shops, and speakers were procured from

(Original in Des Moines)		No. _____
Washington Railway & Electric Co. System		
EMPLOYEE'S SECOND LIBERTY LOAN PURCHASE CONTRACT		
Date.....1917.		
TO WASHINGTON RAILWAY & ELECTRIC COMPANY		
I am advised that you are purchasing certain United States of America 4% Liberty Loan Coupon Bonds. I desire to become the owner of such bonds to the amount of \$ _____ par value, and hereby authorize you to deduct this sum from my wages in _____ ^{weekly} _{monthly} installments of \$ _____ each, commencing the last half of October, 1917, upon the mutual agreement that when these deductions equal the total amount of this subscription (plus accrued interest at 4% from October 15, 1917, on said total amount, and less 4% interest on installments from dates of payment) you will deliver to me 4% Liberty Loan Coupon Bond, par value, to the amount of this subscription. If, at any time, for good and sufficient reason I find it necessary to discontinue such installment payments, you agree to refund the payments already made by me, without interest, except that if payments already made have been sufficient, bond of the proper denomination, under the terms covered herein, will be delivered, and only the excess of deposits over the bond so delivered will be refunded.		
Accepted and confirmed for W. R. & E. Co., by _____	Signed by _____	(Name of Employee)
(Name of officer or agent),	Occupation _____	
(Title)	Pay Roll No. _____	
	Division _____	
Received of Washington Railway & Electric Co., United States of America 4% Liberty Loan Coupon Bond No. _____ in fulfillment of above contract.		
(Name of Employee)		

EXAMPLE OF BOND CONTRACT OF WASHINGTON RAILWAY & ELECTRIC COMPANY

CLEVELAND (OHIO) RAILWAY

H. J. DAVIES, *Secretary and Treasurer*

The company sent out circular letters to its employees in regard to subscriptions for the First and Second Liberty Loans, urging them to buy bonds and telling them how the company would allow payment to be made within a year. The employees were permitted to authorize deductions from wages or to make payments at such

the local Liberty Loan committee. Committees were organized at each car-house to report directly to their division superintendent. These made their report direct to the committee of three at headquarters. Applications were accepted on the government plan, weekly plan, and monthly or cash-payment basis. A great number of the employees subscribed on the weekly basis. A total subscription of \$325,000 was the mark reached in the First Liberty Loan, and there have been very few withdrawals or cancellations.

The Second Liberty Bond issue was conducted in a similar manner, with the exception that the bank made a few changes as to the manner in which deposits should be received. The amount of bonds subscribed for by employees of this company was \$59,000.

Put your money in the Bank of Liberty and help wage the war of the people.

We intend to advertise the third issue just as strongly as we have the previous two. Instead of handling it directly through our own organization, however, we are going to work hand in hand with the local committees and banks and persuade the men to make their payments directly to the bank or committee in their locality.

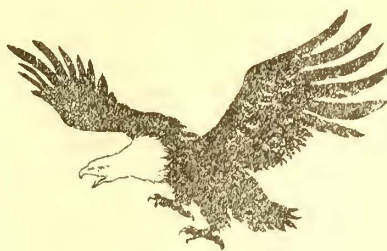
TOLEDO RAILWAYS & LIGHT COMPANY, TOLEDO, OHIO.

FRANK R. COATES, *President*

After two successful campaigns for the sale of Liberty Loan Bonds in Toledo, in which the company contributed greatly toward the splendid results, we have started on our third campaign of co-operation with the government for the coming big drive. While we plan to do greater things from an advertising standpoint in the third drive, we shall not have a company organization in the field, in order to avoid conflict with the general sales organization which will be headed by the president of the railway, as formerly.

When the first sale of Liberty Bonds was held, the company not only placed the inside and outside advertising space of its 300 or more cars at the disposal of the local committee, but coined a number of slogans and donated the posters which were used in the street-car advertising. These were kept in the cars for some time before each campaign started and during the weeks of the sale. A large electric sign, reading "BUY LIBERTY bonds NOW," was donated by the president and placed at the most prominent location in the city while the sale of bonds was on.

A committee of company employees was also organized to handle the sale of bonds among the 2000 employees of the company. Through the efforts of this committee about \$82,000 of bonds



were disposed of during the first sale of 1917 bonds.

The same committee worked among the company employees during the Second Liberty Bond campaign, and \$63,000 of bonds were sold to company employees. In both the First and Second campaigns arrangements were made whereby a certain sum would be deducted from the pay of each employee, the payments to be completed in a year's time.

Beginning on Monday, March 18, and continuing for a period of seven weeks, the Toledo company will use the advertising space, both inside and outside the cars, for Liberty Loan advertising only. The company will pound continuously during this period upon the importance of buying bonds of the third issue, and it expects to aid materially in the sale of Toledo's quota, which will be \$20,000,000.

The large electric sign urging everyone to buy Liberty Bonds will be again erected. The sale of bonds to employees will be handled by salesmen from the general sales force, which will consist of about 3000 persons.

CUMBERLAND COUNTY POWER & LIGHT COMPANY, PORTLAND, ME.

A. H. FORD,

Vice-President and General Manager

To assist in making the campaign for the sale of the First and the Second Liberty Loans a success, the Cumberland County Power & Light Company, together with its subsidiary companies, viz., the Lewiston, Augusta & Waterville Street Railway, the York County Power Company and the Westbrook Electric Company, "carried on" as follows:

The company's part consisted in agreeing with its employees to purchase whatever bonds the employees subscribed to and to hold them until the full amount of each subscriber's bond had been paid for. Payments were to be at the rate of \$1 a week for each \$50 bond. Upon final payment the company was to turn over to

Each and every American has a personal responsibility in making the Third Liberty Loan a success. Everyone must contribute to the ending of Kaiserism by buying bonds himself as far as he can and perhaps even more by making unceasing efforts to persuade others to buy them.

the employee the total number of bonds purchased, together with all the coupons.

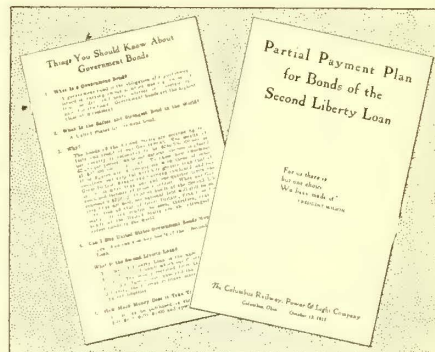
The employees' part consisted in appointing a member from each department of each company to canvass thoroughly all the men in his department for subscriptions. The result in the case of the Second Loan was a total subscription of \$45,100, the total number of men employed being about 1400.

It is our intention to conduct a similar campaign for the third issue of Liberty Bonds.

MAHONING & SHENANGO RAILWAY & LIGHT COMPANY, YOUNGSTOWN, OHIO.

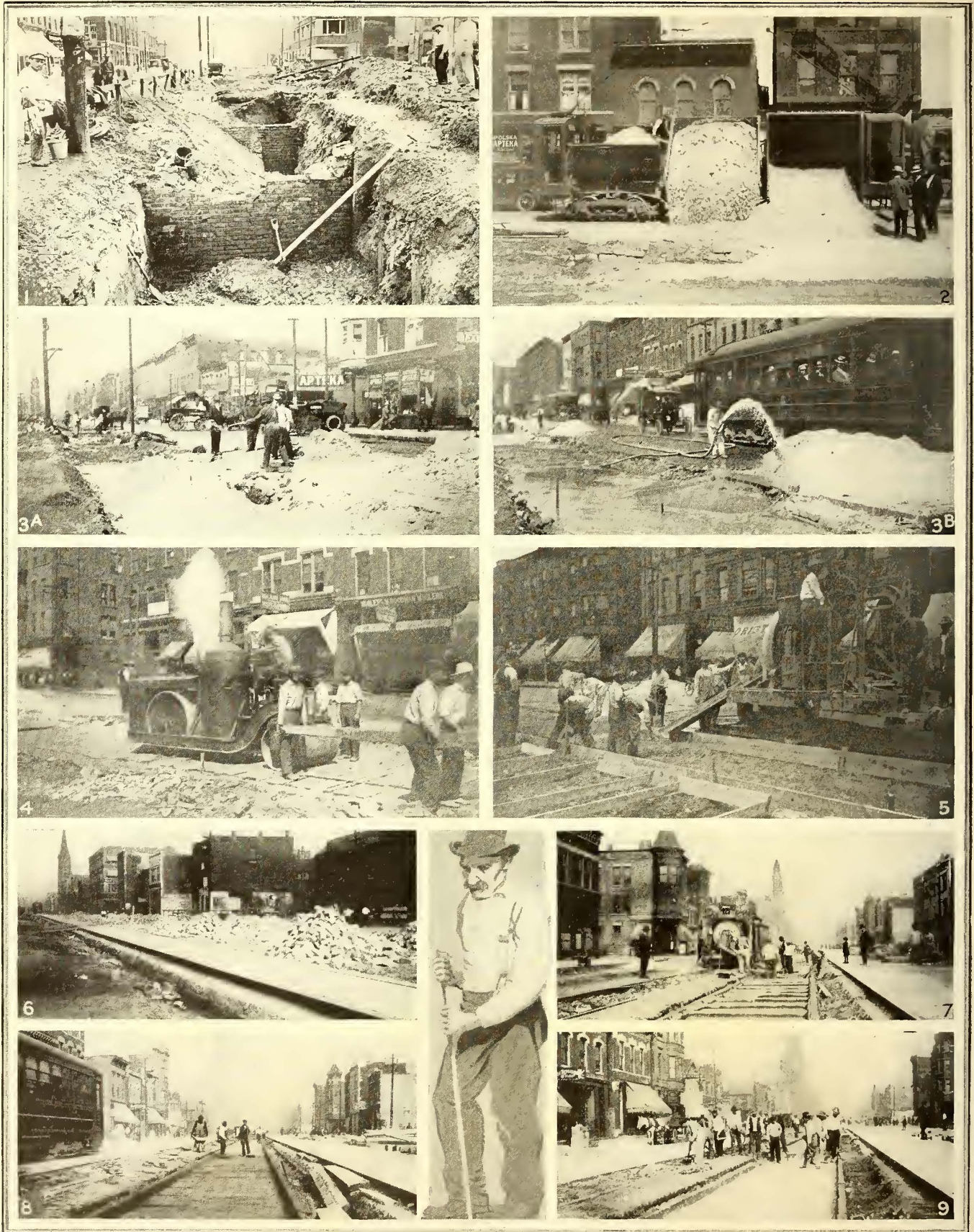
R. P. STEVENS, *President*

Our company was quite active in the First Liberty Loan campaign, carrying the bonds for the employees. At the time of the second campaign, we were in the throes of financing our floating debt and did not have the cash available to go into the matter in a broad way. We thought it advisable not to attempt any active steps toward financing purchases by our employees at that time.



BOND BOOKLET AND CATECHISM USED IN COLUMBUS, OHIO

We have had under discussion the matter of the company's participation in floating the Third Liberty Loan. It has been decided that although it will probably be inadvisable for the company to finance employees on account of purchases of these bonds, we will, however, donate the services of our stock sales department (which department we have organized, with a large number of salesmen, for the purpose of selling our preferred stock) to the sale of Liberty Bonds. We think we can serve the government in this way. It is believed that where an employee's capacity for saving is limited to \$5 or \$10 a month, it will be better policy to advise such employees to purchase Thrift Stamps instead of attempting to buy Liberty Bonds by borrowing the money. We feel that by having our sales force devote its entire time during the campaign to the sale of the bonds in the local communities, we can probably accomplish more than by directing their efforts among our employees.



1. Uncertain right-of-way on which new track had to be placed.
 2. Sand for filling hauled in side-dump cars.
 3. (a-b) Shoveling and washing sand into holes.
 4. Rolling the filled-in right-of-way.
 5. Pouring between outside forms with curbing forms ready to use.

6. New eastbound track completed.
 7. Inside forms in place as curbing is poured.
 8. Forms removed and layer of screenings going in.
 9. Placing the ties and removing paving from old track.

Photographic Description of Chicago Track Construction Methods

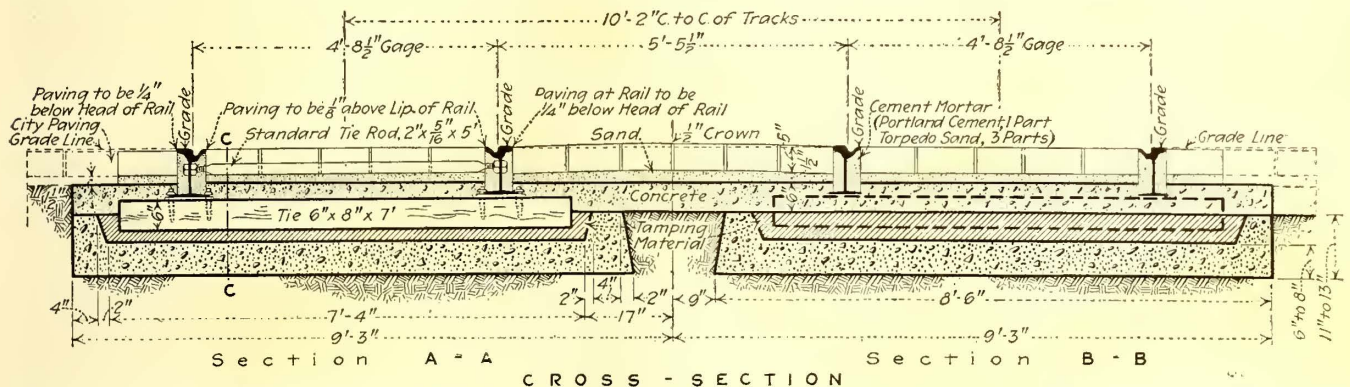
Track Construction Methods Employed in Great Street Widening Plan

Increasing Width of Twelfth Street Necessitated Complete Rebuilding of Double Track of Chicago Surface Lines—New Type of Sub-Grade Construction—Many Labor Saving Devices Employed to Keep Ahead of the Paving Contractor

TAKING up two well-laid tracks set in concrete construction, moving them more than 20 ft., and placing one of them along what was formerly the front end of a store basement, was, in brief, the part that the Chicago Surface Lines had to take in the \$2,000,000 plan of widening Twelfth Street, one of the principal east and west thoroughfares of Chicago. The width of the street was increased along the south side from 66 ft. between building lines and 38 ft. between

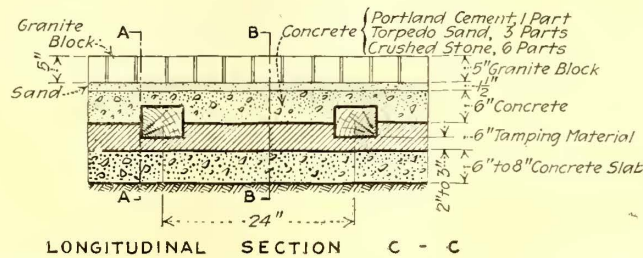
to keep out of the way of the paving contractors who, with their \$500,000 contract for 60,000 sq. yd. of pavement, were working under a time-penalty clause.

The story of the construction job from the time the railway company began its work until the track was completed is fairly well portrayed in the series of pictures herewith reproduced. Before the railway company began work the contractors had moved back or cut off the front section of buildings along the south



curbs, to 108 ft. and 78 ft. respectively. Much credit is due M. J. Faherty, president of the board of local improvements, for the speedy accomplishment of the task of co-ordinating and satisfying all the diversified interests involved in the widening of the street over a distance of 1½ miles, which as a main thoroughfare was occupied by all the utility companies and a great variety of commercial enterprises. The completion of this project marks the first step in the much-talked-of but long-delayed "Chicago Beautiful" plan as laid out by the Chicago Commission.

The work of the street railway company in connection with the program involved taking up and building anew 1.38 miles of double track on Twelfth Street, including seven special-work layouts, and rebuilding 300 ft. of double track on either side of Twelfth Street at each one of these seven intersections on account of the change in grade. In all, the job comprised the building of more than 3 miles of single track and was completed between the dates of July 14 and Nov. 11, with eleven days out for bad weather and six days out for delay caused by the contractors. The average number of men employed was about 210. Because other men could not be obtained the company employed many labor-saving devices to help make up the shortage and

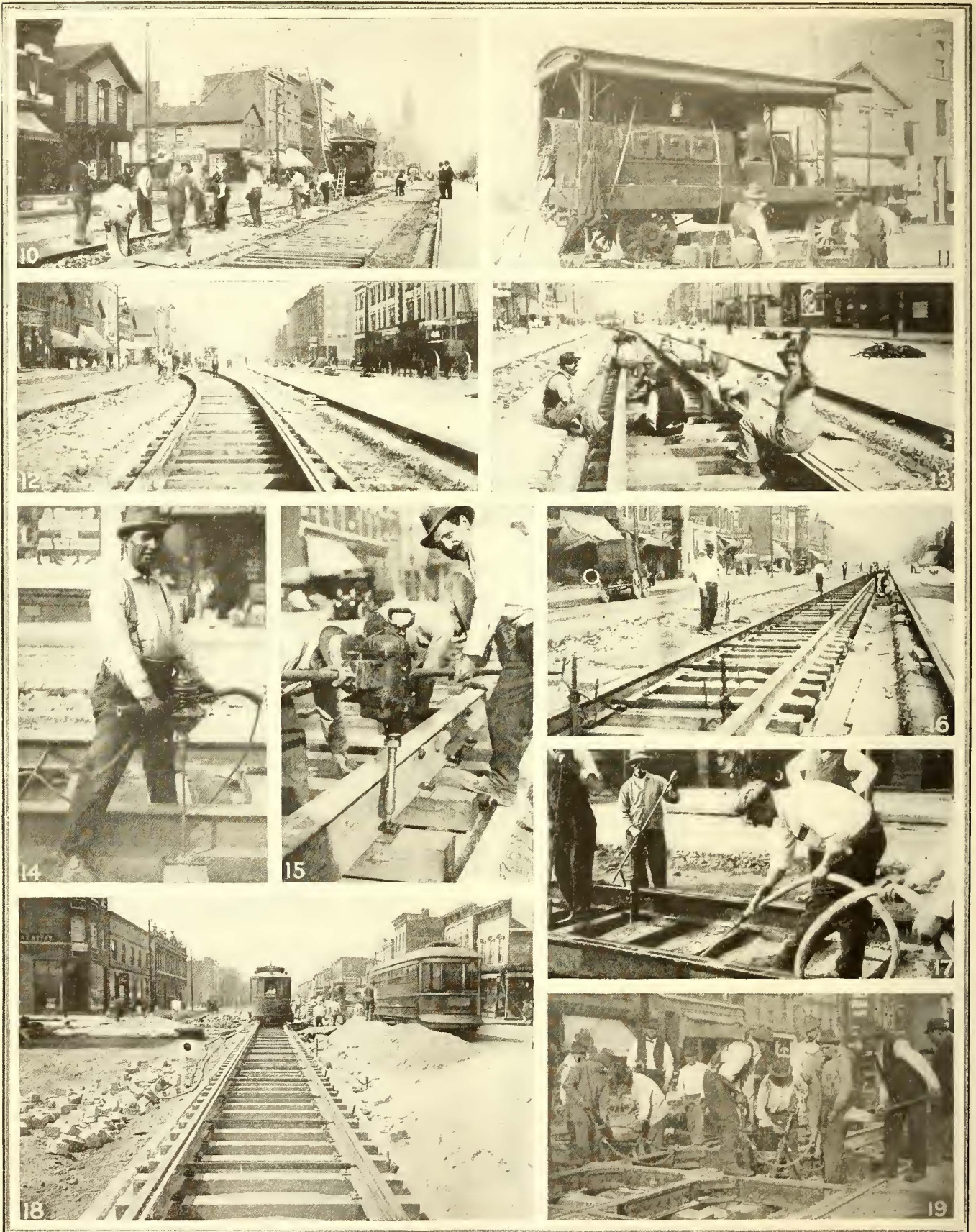


CROSS AND LONGITUDINAL SECTIONS OF TWELFTH STREET, CHICAGO, TRACK CONSTRUCTION

side of the street. The curbing and sidewalk construction had been torn up and a row of open basements partially filled with debris and rubbish remained as a foundation for the new eastbound track. Preliminary to track construction it was necessary to excavate to the bottom of the old basements and to

refill them with lake sand in order to be sure of the foundation. The sand was hauled in side-dump cars originally purchased for hauling garbage for the city, dumped as near the fill as possible, and then shoveled or moved hydraulically into the holes. Wherever walls occurred that were sufficiently solid, they were not removed. While the filling-in process was going on the work was flooded to aid the settlement, and at some places planks were laid down over the trackway and the fill was compressed with a 10-ton roller. The space outside the trackway was also flooded so that the weight of the roller would force the sand into voids, as it was desired to control the foundation over a strip 10 ft. outside the right-of-way.

On the new foundation the concrete slab for the eastbound track was laid, and this construction was completed all the way through before the old tracks were disturbed. Eastbound traffic was then operated over the new track, leaving the former eastbound track free



- 10. Cutting away the old concrete to free the rails, and new ties ready to receive rail.
- 11. Shop compressors used in tamping track.
- 12. Prying the rail over to new track location.
- 13. Cleaning off the old cement on the rails.
- 14. Boring the screw spike holes.
- 15. Driving home a screw spike
- 16. Track jacked up ready for tamping.
- 17. Wetting the tamping material and washing it under the ties
- 18. Track tamped and blocked laterally in alignment ready for concreting.
- 19. Pneumatic tampers prove especially effective on special work

Photographic Description of Chicago Track Construction Methods (Continued)

for the use of work and material cars. As the sub-grade construction work for the new westbound tracks progressed the rails of the old eastbound track were shifted, in good condition, over onto the new ties and foundation. Finally upon the completion of the second track, westbound car service was transferred to this and the old westbound track torn up and removed.

UNCERTAIN FOUNDATION MAKES BOTTOM SLAB CONSTRUCTION NECESSARY

The type of track construction used on Twelfth Street differs in some interesting ways from the Chicago standards. Deviation from the standard solid concrete track in which the ties are completely incased in concrete was thought necessary because of the uncertain character of the foundation, placed as it was over a new fill some 9 ft. deep. In view of this condition it seemed advisable to provide an assurance against sagging by building, along the right-of-way, a concrete slab on which to place the track construction. With a slab foundation it was necessary to use a certain amount of ballast in order satisfactorily to surface the track. Fine washed screenings were used for this purpose. To retain the screenings entirely under the ties or prevent them from scattering out over the roadway in tamping, the concrete foundation slab was formed with a curbing along each side. The curbs were also useful in lining up the track. Wedges were driven down between a tie end and the curb at intervals, thus holding the track exactly where wanted without danger of accidental knocking out of alignment during the concreting. The curb construction necessitated a somewhat wider base on the concrete foundation slab than the standard concrete construction provides, in order properly to support the curbing. The width was therefore increased from 7 ft. 4 in. to 8 ft. 6 in.

In respects other than those already mentioned the type of track construction used on Twelfth Street is the standard 2-A Board of Supervising Engineers construction for use in paved streets. The ties are 90 per cent heart yellow pine. The rail is 9-in., 129-lb., Lorain section No. 403, set on tie plates having a single shoulder placed at the outside edge of the rail base. The rail is fastened to the ties by screw spikes, two on the inside and one on the outside of the rail at each tie, and inserted through rail clips and through the tie plates.

The space between ties and above the screenings was filled with concrete which was carried up well over the base of the rail. On top of this a 1½-in. layer of torpedo sand, instead of the bedding sand generally used in Chicago, was spread as a cushion for the paving, which was laid with No. 1 Wisconsin granite block the full width of the trackway. This was grouted by means of a 1 to 1½ cement grout, which runs down between the blocks to make the sand a solid mass, thus sealing over the top of the entire track construction against seepage of water from above down into the interior track construction.

After the new eastbound track was completed for traffic, work was begun on the new westbound track, and this was especially interesting because of the fact that the rails of the old eastbound track were moved over and used on the new track without separating the electrically welded joints. All work on the sub-founda-

tion was therefore completed for a section, and then as the concrete mixers and work cars moved back, having been preceded by the material trains, which distributed cement, tamping material, rails, ties, rods, plates, clips, spikes, etc., the rails of the old track were freed from their fastenings and pried over.

The concrete bottom channel was first poured, using from one to three motor-driven Chicago concrete mixers delivering a ¾-yd. batch at a time and mounted on cars which were run on an adjacent portable track. The forms for this channel-shaped slab consisted of a single row of boards set on edge against stakes along the outer sides of the slab and extending up to the top of the curb, and sectional forms blocked up between these boards to form the inner sides of the curbing. The material for the slab was poured in to the full thickness and then the inner forms were put in place and the curbs poured immediately. After the concrete had set these inside forms were removed and a layer of tamping material was spread over the concrete. The ties were then laid and spaced ready for the rails.

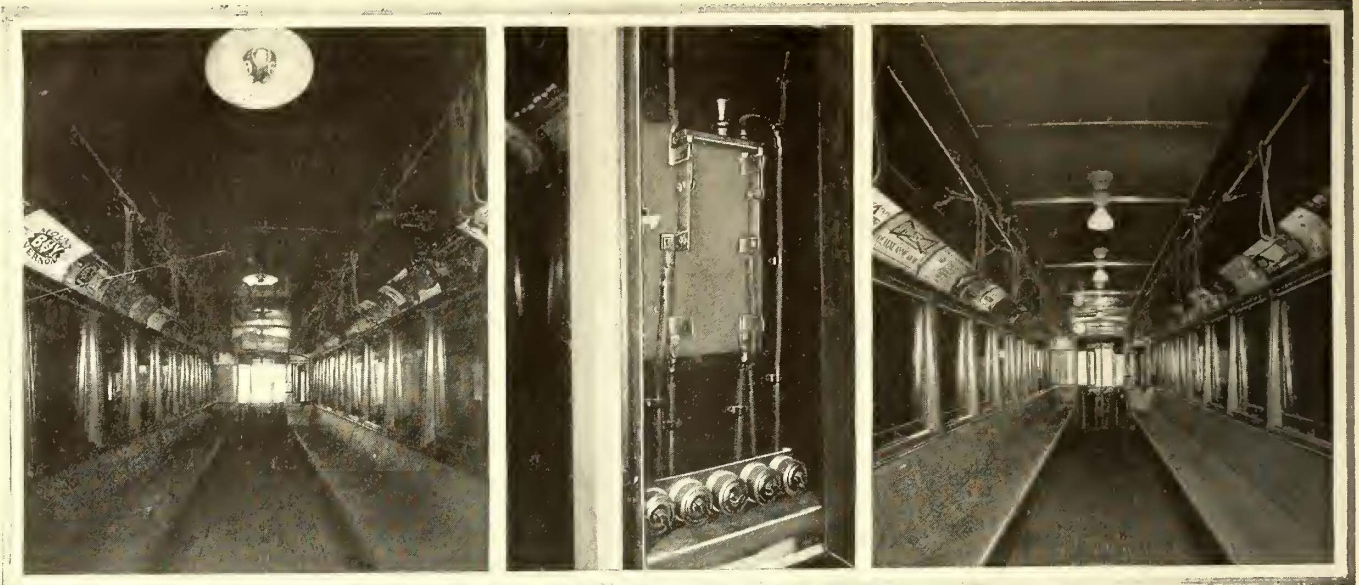
Gangs of men following the mixers as they receded from the first end of the job were engaged in tearing up the paving around the old track and in breaking out the concrete around the rails so that they might be freed from the ties. To expedite this work a spare compressor from the railway shops was loaded on a small flat car and taken to the job to supply air to eight Ingersoll-Rand pneumatic tampers fitted with special tools for chipping out the concrete. These tools were effective in removing the concrete over the base of the rail and the grouting at the web of the rail. They were also used later in tamping the ties up to grade and were found especially valuable in tamping up the new special work at the seven intersections.

TRACKS MOVED WITHOUT BREAKING ELECTRICALLY WELDED JOINTS

As the rails were cleared of concrete they were moved over onto the ties at the new track location. This moving process was done gradually by a gang of men who used crowbars to pry the rail over to its new position. It was possible to do this without breaking any of the Lorain welded joints. After the rail was in its new location another gang of men cleaned the rail to receive the new concrete and grouting.

The work of tearing up the old paving outside the rails in order to free the rails was greatly expedited by placing jacks underneath two or three tie rods at a time, after the inside paving had been removed. Lifting up on the jacks bent the rods up and pulled the rails toward each other and away from the outside paving, thus avoiding the necessity of removing the first row or two of blocks by hand.

As the rail was moved over to the new ties it was set to gage and the ties blocked up approximately to grade. The tie plates were then put under the rails and the holes bored in the ties to receive the screw spikes. These holes were bored by means of Chicago Pneumatic Tool Company's electric drills and the spikes screwed in with heavy No. 4 drills made by the same company. This screwed the spikes down and set them tight as the motor stalled. The spikes were driven through rail clips, two spikes and clips on the inside and one on the outside at each tie. Each spike ma-



THE OLD STYLE—FIFTEEN 23-WATT LAMPS PANEL BOARD FOR NEW LIGHTING THE NEW STYLE—FIVE 56-WATT LAMPS

Reducing Car Lighting Costs from 36 Cents to 8 Cents per 1000 Car-miles

BY ARTHUR R. JOHNSON

Assistant to Superintendent of Equipment, Mechanical Department, Third Avenue Railway System, New York

IN CONNECTION with the remodeling of the Third Avenue Railway System of fifty standard 28 ft. closed cars into prepayment type for its lines in Westchester the car lighting is being changed from 23-watt to 56-watt units because of the great success of the

(Concluded from page 611)

chine was protected from excessive overload by a circuit breaker mounted on a pole hooked over the trolley wire to supply the power. These circuit breakers also served to start and stop the motor, and were controlled by a solenoid energized through a double push-button control at the handle of the drill.

After the rails were fastened to the ties they were jacked up to grade by means of screw jacks set about 30 ft. apart on each rail, and the additional screenings were placed between the ties and the latter tamped to permanent grade. The tamping was made more solid by wetting down the screenings and by washing them underneath the ties. This was done by directing a nozzle stream at the bottom edge of the tie. With the track thus tamped to grade and aligned, the jacks were removed and the upper concrete or paving foundation poured. This was poured from mixers operated on the track under construction. The paving was then laid as described above, and wherever the condition of the old blocks was satisfactory they were relaid, the pitch with which they were formerly bound having been thoroughly cleaned off in order that the new grouting would be effective.

All work on the improvement was finally completed on Dec. 2, which date had been set for a formal opening of the street. A considerable celebration attended by some 10,000 people and accompanied by appropriate speeches from the Mayor and other prominent city officials marked the conclusion of this important work.

larger units on the fifty low-level steel cars operated in the Borough of the Bronx. These cars, which were described in the *ELECTRIC RAILWAY JOURNAL* of Feb. 14, 1914, have five 56-watt tungsten lamps in Macbeth-Evans Alba shades along the center line of the car, as illustrated. Previously there were three five-light clusters with Benjamin shades and 23-watt lamps.

The new semi-direct system gives a well-diffused illumination. The tungsten lamps form one series circuit, the second circuit being made up of five 2-cp. lamps for the destination signs and headlights. In case a tungsten lamp burns out, the equivalent resistance can be cut in by turning the snap switch provided for each of the five lamps. These snap switches are located in a panelboard at the front of the car. The same panel carries a double-throw switch required for changing from underground conduit to overhead trolley operation.

Experience since 1914 with the equipments on the low-level cars shows that these larger units instead of costing for maintenance three-eighths as much as the 23-watt outfits as estimated actually cost less than one-quarter as much. A recent check shows that the lamp costs per 1000 miles for the past year were 36 cents on the system as a whole and only 8 cents for the fifty low-level cars alone. Only 270 lamps, or less than one lamp per day, were required for these fifty cars, which made approximately 900,000 miles.

Kansas City Railways Active in Local N. S. C. Council

THE Kansas City Railways has been one of the most helpful of active members of the local council of the National Safety Council, and its representatives at the foremen's round tables have helped to give the discussion a practical value. At the recent election of officers, George J. Smith, superintendent of rolling stock and shops, was chosen as vice-president, while Julien H. Harvey, superintendent of efficiency, has served two terms as local president. At the last council dinner there was an attendance of 420.

Automobile Parking Chokes Washington Traffic Channels

In This Section of His Report John A. Beeler Says Greatest Single Source of Relief to Washington Car Service Is Restriction of Parking Privileges—Other Suggestions Dealing with the Washington Railway & Electric Company Include One-Way Vehicular Traffic, Double-Berthing, Loading Platforms, Front-End Fare Collection and Rerouting

ON MARCH 9 John A. Beeler submitted to the Public Utilities Commission of the District of Columbia his fifth unit report. This deals largely with relief measures for the lines of the Washington Railway & Electric Company. The most congested section of this railway system is in the region bounded by Ninth Street, Fourteenth Street, F Street and G Street (see Fig. 1), and in many ways the conditions here are worse than on Fifteenth and adjoining streets, discussed in the report on the Capital Traction Company, abstracted in the issue of this paper for Feb. 2. The roadways are narrower, so that many vehicles have to run on the car tracks, especially if machines are parked along the curbs. This reduces the speed of car traffic to that of the slowest vehicle on the rails and results in bunching and irregular service. Since the number of cars that can pass through this portion of the railway system determines the service that can be rendered on the remainder of the lines, schedules are very seriously deranged.

The section under consideration is the heart of the city. Here are concentrated the bulk of the retail business and the principal office buildings, many of which are now filled with government employees engaged on war work. Very little space is left for the construction of additional tracks, as the streets are well covered as it is. Through this small area is operated every city route of the Washington Railway & Electric Company, with the single exception of the Columbia line, which is but a short distance north, on New York Avenue.

In the main portion of this territory, that bounded by Ninth, Fourteenth, F and G Streets, there are twelve street corners. Six of them are electric railway crossings, and at each crossing there are one or more curves that still further complicate the special work. The effect of the track intersections is invariably to slow down the speed, since cars are now required to come to a full stop before crossing other tracks. On account of the breaks in the conductor rails inherent to the conduit system, it is necessary for the cars to proceed without power over the intersections, which not only reduces the speed but makes it inadvisable for cars to follow each other closely.

The maximum number of cars operated in one direction over each street is shown in Fig. 3. The heaviest service over any piece of track is that between F and G Streets on Fourteenth, where 107 cars are scheduled to pass one way in one hour. With a stop at G Street, a division of cars at the switch between northbound and eastbound, and the ever-present automobile traffic, the problem demands action.

Second place is accorded to the two squares on G Street between Ninth and Eleventh, where ninety-nine cars are scheduled westbound in one hour. Here the vehicle traffic is less, so that the situation is not so severe. The general traffic, however, is so great that the street cars are not all passed through on schedule time.

The large number of track intersections over which the cars in this territory have to pass has proved a serious limitation on the number of cars that can be operated over the main routes. This is indicated in Fig. 4, which shows the number of cars scheduled to pass over each intersection in this territory.

The maximum number scheduled is at Fourteenth and G Streets, where 283 are supposed to pass in one hour. Next to this is the intersection with the Fourteenth Street line of the Capital

Traction Company at Fourteenth and H Streets, where 259 cars in an hour are scheduled. The smallest number at any point in this section is at Eleventh and E Streets, where but fourteen cars are scheduled in the maximum hour.

No more cars can be run than can be passed over the crossings. It takes on an average about eight seconds

A considerable amount of parking is done by those who drive to work in the morning and leave their machines on the streets all day while in their offices. In the afternoon they drive back home, but not until the general public has been exasperated by the delays to the street cars consequent on the use of the public streets as a private garage. If a street car company were to run its cars downtown in the morning and leave them in the street until needed in the afternoon, it would not take the public long to invoke the police powers and have the company officials run out of town.

JOHN A. BEELER.

DISTANCES TRAVELED WITH 1½ M.P.H.P.S. ACCELERATION

In the first	second	1.1 ft., total from start	1.1 ft.
In the second	second	3.3 ft., total from start	4.4 ft.
In the third	second	5.5 ft., total from start	9.9 ft.
In the fourth	second	7.7 ft., total from start	17.6 ft.
In the fifth	second	9.9 ft., total from start	27.5 ft.
In the sixth	second	12.1 ft., total from start	39.6 ft.
In the seventh	second	14.2 ft., total from start	53.8 ft.
In the eighth	second	16.4 ft., total from start	70.2 ft.

for a car to pass over an intersecting street. It is possible for two cars to pass at the same time in opposite directions, and this is done in some cases. It is ordinarily the case in Washington that each car comes to a full stop before entering the intersection. The

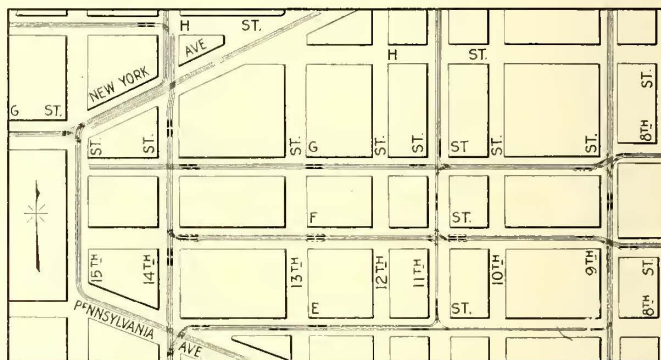
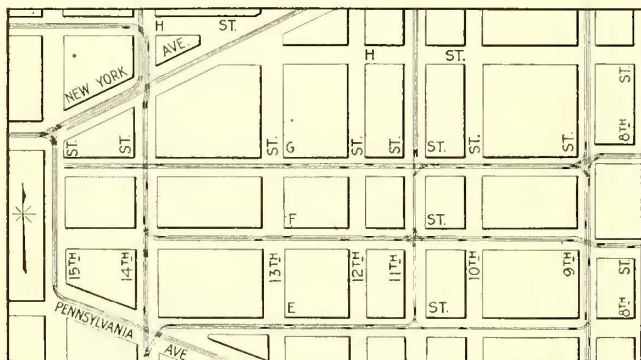
time required is then limited by the acceleration of the car. At a rate of acceleration of $1\frac{1}{2}$ m.p.h.s., which is the average for this city, the car would move the distances given in the table on page 613.

In this table is an absolute limit to the speed which can be obtained in going over a crossing. This requires power to be kept on all the time while moving over the intersection. With the conduit system this is impossible, as the conductor rails are necessarily interrupted where the two tracks cross.

If ten seconds are allowed as the lowest average time for the passage of a car from the time the signal to proceed is given until the intersection is cleared, it follows that the maximum number of single-car units that can pass over a right-angled crossing is 180 for a thirty-minute period, or 360 per hour. To do this would require no waste time between cars, that every car moves with clock-like regularity, and that no breaks occur due to interference of any kind whatsoever. This virtually means that the street cars and all vehicular traffic would have to be operated over the inter-

who drive to work in the morning and leave their machines on the streets all day while in their offices. In the afternoon they drive back home, but not until the general public has been exasperated by the delays to the street cars consequent on the use of the public streets as a private garage. If a street car company were to run its cars downtown in the morning and leave them in the street until needed in the afternoon, it would not take the public long to invoke the police powers and have the company officials run out of town. In fact, the situation has been fully covered by Sec. 64 of Art. XII of the Police Regulations, which states: "A driver of a street car shall not allow it to stand upon a street for a longer period than five minutes unless the way is obstructed . . ." This is a most commendable regulation, but it seems to be a case of unconscious discrimination in favor of the automobile to allow it privileges that are denied the more public conveyance.

The result of all these delays is to interfere seriously with schedules, especially during the rush hours. The



FIGS. 1 AND 2—EXISTING AND PROPOSED CAR STOPS IN CONGESTED SECTION OF WASHINGTON RAILWAY & ELECTRIC COMPANY'S SYSTEM

sections in such a way as to co-ordinate the movements of the latter with that of the street cars. This figure represents the theoretical capacity rather than that actually obtainable.

CONGESTION INCREASED BY AUTOMOBILES

The streets in this territory are quite wide, F Street being 100 ft. wide and G Street 90 ft. wide. The active roadways are encroached upon by wide sidewalks of which a large proportion has been appropriated by private property owners for stairways, areas and projecting show windows. The roadway is rendered still less effective by the large number of automobiles parked at all points in this district. In several cases machines are allowed to park at an angle with the curb, which still further reduces the roadway. Even at the street corners, where the public is supposed to have a chance to board the cars, the number of automobiles is so great that it is frequently difficult for prospective passengers to reach the cars they desire to take.

The danger to pedestrians is also increased by the extensive parking. An automobile driver never knows when a pedestrian will appear from behind a parked machine; and a person who desires to cross the street or catch a car is never sure that he will reach his objective in safety.

A considerable amount of parking is done by those

cars are slowed down until they move scarcely as fast as a man can walk. The schedule speed called for on the time-table is low enough, being but 6.6 m.p.h.

On F Street the speed in the morning by fifteen-minute periods was found to vary from 6.71 down to 2.96 m.p.h., averaging about 4.6 m.p.h. for both directions. In the evening rush period the speed varied from 9.75 down as low as 2.84 m.p.h., the average being approximately 4.5 m.p.h. for all cars. The speed on G Street in the morning was fair, being 6.5 m.p.h., which was reduced in the evening to 5.5 m.p.h., the range in speeds being from 8.21 down to 3.01 m.p.h. The slightly better showing on G Street east of Fourteenth is counteracted by the speed in the block from Fourteenth to Fifteenth, where the average speed was less than 2.5 m.p.h. The maximum speed recorded in this block for a fifteen-minute period was 2.78 m.p.h. The average time required to turn a car on the cross-over, based on 154 observations, was sixty seconds.

The average speed on Ninth Street is somewhat better than on F and G Streets. The morning observations by fifteen-minute periods showed an average speed of 7 m.p.h. on Ninth Street, which, however, fell to 5.6 m.p.h. in the evening rush. Under similar conditions the speed on the Eleventh Street line during the morning rush was 5.9 m.p.h., and in the evening 4.2 m.p.h.

These average speeds may be tabulated as follows:

AVERAGE SPEED OF CARS IN MILES PER HOUR

Line	Morning Rush	Evening Rush
F Street	4.6	4.5
G Street (East of Fourteenth)	6.5	5.5
G Street (West of Fourteenth)	7.0	2.5
Ninth Street	7.0	5.6
Eleventh Street	5.9	4.2

The situation is still further complicated by the variety of cars used. On F and G Streets may be seen every kind of street car, from the large center-entrance type used on the Maryland line to the small hand-brake cars that still do duty for rush-hour service on practically all the lines. Apparently no attempt has

able; at other points inspectors should aid in loading the cars.

10. A rerouting of the cars in this region should follow as soon as practicable. This will be considered in detail in a section of this report to follow.

1. *Precedence for Street Cars.* The cars must be given preference by the traffic officers at all intersections in this territory. By passing cars in pairs the movements will be facilitated and congestion reduced to a minimum. As at other points already referred to in the first unit report, the officers should endeavor always to keep the near-side berths empty and the far-side berths filled. If the track clearance on curves is such that cars of certain types cannot pass safely the officers should be well informed of the fact and should make due allowance in their actions governing the movement of cars.

2. *Parking of Automobiles Limited.* Parking of automobiles interferes seriously with the movements of cars in this congested territory. It is recommended that no parking be allowed on F and G Streets between Ninth and Fourteenth Streets, and on Ninth Street between F and G Streets, and that automobiles be required to proceed through the streets, draw up parallel with the curb, and receive or discharge passengers only. Commercial vehicles should be allowed to stand in front of stores only long enough to transact legitimate business.

3. *One-Way Vehicular Traffic.* It is also recommended that F Street between Seventh and Ninth be closed to westbound traffic, that G Street between Seventh and Ninth be closed to eastbound traffic, and that Ninth Street between F and G be closed to northbound traffic. This should apply to all vehicles except those having business with the Patent Office, which is the only building within this boundary, and which is served principally by the entrance on Seventh Street.

4. *Segregation of Types of Equipment.* The Washington Railway & Electric Company has no one type of

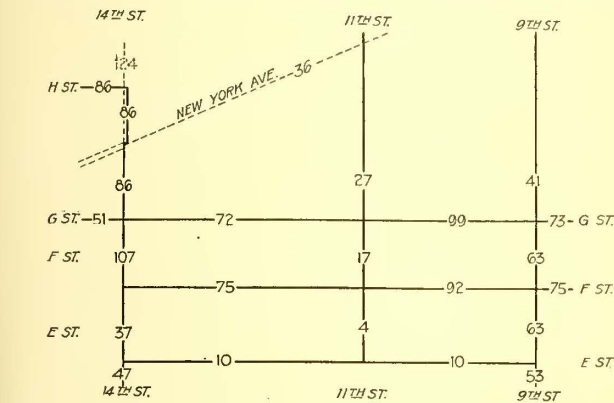


FIG. 3—MAXIMUM NUMBER OF CARS IN ONE DIRECTION SCHEDULED IN DOWNTOWN DISTRICT, WASHINGTON RAILWAY & ELECTRIC COMPANY

been made to segregate types of equipment by routes. This mixture of car types has proved wasteful, since the cost of platform labor time is increased, power is wasted because the faster cars crawl along on the resistance points of the controller, and the accommodations given the patrons are so reduced that the carrying capacity of the road is materially decreased.

MEASURES AVAILABLE FOR RELIEF

The measures which should be put in effect immediately are the following:

1. Street cars must be given precedence by the traffic officers, and must be passed over intersecting streets in pairs as far as possible, especially during the hours of congestion.
2. Parking of automobiles must be limited to permit freer movement of the street cars and to provide greater safety to the public.
3. Certain portions of the streets must be limited to one-way vehicular traffic.
4. Equipment of the company must be so distributed that, as far as possible, all the cars on one street shall be of the same general type.
5. Cars of greatest capacity and highest speed must be used on the principal routes, and the slower and smaller cars transferred to the less congested lines.
6. Stopping places must be combined and reduced to the smallest number that will accommodate the public properly.
7. Double berthing must be employed at all the stops in this territory.
8. Loading platforms must be provided where they can be used to advantage; at the other stopping places zones of safety must be provided.
9. Front-end collectors must be employed at the stops in this territory wherever the car type is suit-

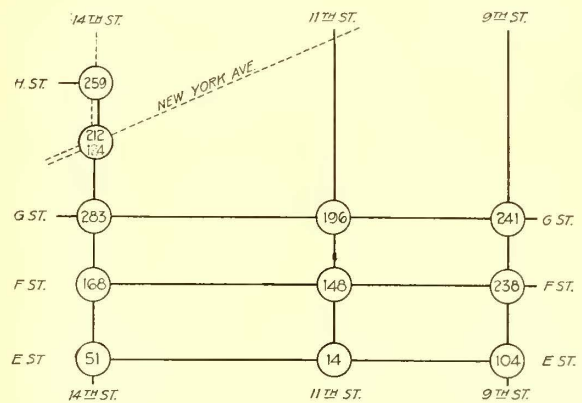


FIG. 4—CARS SCHEDULED TO CROSS INTERSECTIONS BETWEEN 4.30 AND 5.30 P.M.

car that can be called standard. There are, however, several types of which the company owns a considerable number. These are the center-entrance, the pay-as-you-enter, and the old-style open platform box cars. Sufficient cars of each of these types are in service completely to equip various lines with a single type. This will make it possible to speed up all lines except those on which the slowest cars must be placed. All cars

running to the Bureau of Engraving should be of the prepayment type, as otherwise it is not possible for the conductor to collect all the fares in a crowd before reaching the downtown section where most of the passengers transfer to other lines.

5. *Suitable Equipment for Various Routes.* The routes with the heaviest travel should be operated with the largest and fastest cars on the system. It is desirable to use the same type of car on both the Connecticut Avenue and the Georgetown lines, so as to make the equipment entirely interchangeable. The most suitable car for this line is the center-entrance type. This is largely due to the fact that it is the only type (except the hand-brake car) of which there are sufficient to completely equip these lines.

6. *New and Fewer Locations for Stopping Places.* The number of stops can be materially reduced without in any way discommoding passengers, and in most instances it merely makes the difference between stopping on one side of the street or the other. The proposed locations for stopping places in this area are shown in Fig. 2. The total number of stopping places in the area considered will be reduced by their change from fifty-two to thirty-two, saving twenty or 38 per cent.

7. *Double Berthing.* Double berthing must be employed at all these stops in order to get the maximum benefit from the change. The double berthing must be used at all times of the day and night. In every case the car must take the first berth if empty. If not, there should be no hesitation, but the car should be stopped promptly at the second position.

8. *Loading Platforms and Safety Zones.* The streets in this area are comparatively narrow, and it is impossible to obtain sufficient width for loading platforms at all points. However, they must be constructed, and it is essential to have them, at the following places:

Fourteenth Street, midway between G Street and New York Avenue, for both directions.
 F Street at Fourteenth, for both directions.
 F Street at Thirteenth, for both directions.
 F Street at Eleventh, for both directions.
 F Street at Ninth, for both directions.
 G Street at Ninth, eastbound.
 Ninth Street, midway between F and G Streets, northbound.

The platforms should be about 10 in. high and 96 ft. long, which will accommodate two cars of the longest types in use on any of the company's lines. The width should be 4 ft. 6 in. for all except those on Fourteenth Street, which can be 6 ft. wide. It is considered advisable to maintain a width of roadway sufficient to allow the passage of two automobiles side by side, which requires approximately 13 ft. as a minimum. To keep traffic moving it is not considered desirable to have the roadway quite so narrow. To facilitate vehicle movement, the platforms could have the corners away from the track rounded off or beveled. This will prevent danger from collisions of vehicles with the platform. The standing limit for automobiles (there being no parking) should also be moved back a sufficient distance from the platform for a moving vehicle to swing in an easy curve to the roadway between the platform and the curb, instead of having to make a sharp turn between a standing vehicle and the platform.

9. *Front-End Collection.* Comparatively few of the cars of this company have been used with prepayment of fares and few are equipped with doors which can

be kept closed while the cars are in motion. The center-entrance type, which is the largest prepayment car used by this company, has only a single door, so that a separate collector on the street could not help in collecting fares from passengers as they board the cars. An inspector on the loading platform could, however, aid materially in loading by holding back entering passengers until those leaving are all out and by assisting passengers, as in providing tickets and change, before the arrival of the car.

While it will be comparatively difficult to modify the open platform cars to make them into the regular prepayment type with inclosed platforms, it will be quite simple to prevent passengers from entering the cars at the front end. This can be done by issuing instructions to the motormen, and with the co-operation of the public it should not be difficult to use the front platform for exit only. As a matter of safety, passengers should not be allowed to ride on the front platform.

The use of the rear platform as the only regular entrance to these cars will make it possible for the company to use them with a modification of the prepayment system, so that the conductor will always remain at the rear entrance, and collect the fares as the passengers board the car. This will aid in keeping the cars moving, as the conductor will always be in a position where he can see the rear step and know whether it is safe for the car to proceed. It will also tend to reduce accidents, as the conductor will be where he can supervise to a certain extent the movements of boarding passengers.

Another advantage of this arrangement is that in the congested zone front-end collectors can assist in loading the cars by standing on the loading platform or in the safety zone and collecting fares from passengers entering the car by the front door. Frequently these front-end collectors will also be able to assist in loading passengers at the rear entrance, as a man on the street can assist in directing the movements of persons entering or leaving the cars better than the conductor.

On all closed cars, except on interurban cars where special compartments are provided, smoking should be prohibited. The rear platform should be kept clear for the ingress of passengers. This is in keeping with the best modern practice.

10. *Rerouting Desirable.* Apparently the lines of this company are not so arranged as to give the best possible service to all parts of the city which are included in its territory, especially when non-competitive. In order to accommodate all districts to the best advantage, considerable rerouting is desirable so that some sections now under-served will receive a proper proportion of the available transportation facilities. To obtain relief immediately, it is recommended that the first nine items be adopted without waiting for the more comprehensive treatment necessary in considering a rerouting plan. Rerouting possibilities will be presented in sections of the report to follow.

RESULTS TO BE OBTAINED

The results to be obtained in the proposed immediate changes are very similar to those described in the first unit report. An increase in speed in the congested region should follow at once. This in turn will have

Rate-Making Is a Sovereign Power

Oregon Circuit Court Unanimously Rules That the State Through the Public Service Commission Can Change Rates Set in Municipal Franchises

BY A UNANIMOUS vote the six circuit judges of Multnomah County, Ore., sitting *en banc*, handed down on March 14 a decision upholding the right of the Public Service Commission to grant a 6-cent fare to the Portland Railway Light & Power Company. The sole question involved was the power of the commission to raise rates prescribed in franchises.

The history of the 6-cent fare in Portland dates from last autumn, when the company petitioned for increased revenues. A 6-cent fare was then denied, although partial financial relief along other lines was granted [ELECTRIC RAILWAY JOURNAL, Oct. 27, 1917, page 757]. The commission later granted a rehearing and in January, 1918, approved a 6-cent fare [ELECTRIC RAILWAY JOURNAL, Jan. 26, 1918, page, 184]. In February the city of Portland brought suit against the company and the commission, alleging that the latter had acted illegally.

STATE HAS RATE-FIXING POWER

In now upholding the commission's decision the Circuit Court begins with the statement that the power to establish fares for the transportation of passengers by common carriers is a sovereign power of the State. The State may not entirely denude itself of this power. It may delegate, but it cannot abdicate. It may delegate to a municipal corporation authority to grant a franchise upon the streets and establish an unalterable rate fare for the limited duration of the franchise, but such authority can be delegated only by express grant or clear intention. (Woodburn *vs.* Public Service Commission, 82 Ore. 114; Stanilaus County *vs.* San Joaquin, etc., Canal, etc., Company, 192 U. S. 201; Howe Telephone Company *vs.* Los Angeles, 211 U. S. 265; Milwaukee Electric Railway *vs.* Railroad Commission, 153 Wis. 592, No. 238 U. S. 174.)

With this doctrine so clearly and finally established, the court says, it remains to be considered whether the Legislature has delegated sufficient authority to the city of Portland to execute an inviolable contract for rates of fare. By Sec. 94 of the charter of 1903 the city is authorized to grant for a limited time franchises in its streets and public ways. Sec. 112 reads as follows:

Every grant of a franchise which provides for this charging of rates, fares and charges shall contain a pro-

(Concluded from page 616)

the effect of passing more cars through the downtown area in a given time. Higher speed will in turn increase the amount of service in proportion, and also make the movements safer and more agreeable to the public, particularly in the material reduction of crowding, because the same number of cars will make a greater number of trips.

Even so inexpensive an innovation as the raised loading platform is of material benefit to the public in making it safer to board the cars, besides affording a convenient place to stand out of the wet and slush of inclement weather.

vision fixing the maximum rate of fares, rates and charges which the grantee, his, its or their successors or assigns can charge or collect for services rendered or performed by virtue of or during the life of such franchise and the operation of his or its plant or property thereunder; and said grant may also in addition provide that the council reserves the right to thereafter from time to time change, alter, regulate and fix fares, rates or charges which the grantee, his, its or their successors or assigns can charge or collect thereunder during the life of such grant or franchise.

Under these charter provisions the city granted the franchises of the Portland Railway, Light & Power Company. Each franchise contained a provision, in substantially identical terms, that the grantee could collect 5 cents and no more for each passage in one general direction. Provision for the regulation of fares by the Council was omitted from practically all of the franchises. Did the State by this delegation surrender its power of regulation?

The Circuit Court thinks not. The only reference to rates is in Sec. 112, and this is not a grant of power to fix an unalterable rate, as against the State, but is a limitation on the power of the city to grant franchises without fixing the maximum rate of fares therein. In Portland Railway, Light & Power Company *vs.* City of Portland, 210 Fed. 119, Judges Bean and Wolverton of the Federal Court construed these very provisions, in these words:

Sec. 112 of the charter does not in terms or by necessary implication authorize or empower the city to enter into an irrevocable contract with the grantee of a franchise fixing the rates of fares which may be charged by such grantee. . . . [The section] is in the nature of a command from the supreme legislative power of the State to the city that it shall, in granting franchises which provide for a charge of fares, insert a provision fixing the maximum charges which the grantee or its assigns may charge or collect for services rendered during the lifetime of the franchise. It is a limitation rather than the grant of a power to contract or barter away the governmental right of regulating fares, . . . and the fact that no provision was entered in the franchise reserving to the city the right to change the rate cannot affect its power to do so.

STATE IS IMPORTANT FACTOR IN SUIT

The court considered with care two cases upon which much reliance was placed by city counsel, Detroit *vs.* Detroit Street Railway, 184 U. S. 368, and Cleveland *vs.* Cleveland Electric Railway Company, 194 U. S. 538. These were cases, the court remarks, in which the city was attempting to regulate rates, and the State was not a party. In certain situations the rate provisions of a franchise might be binding between parties, and neither of the immediate parties could alter the rates, but the State might regulate them in the exercise of its sovereign power. The Oregon Supreme Court evidently had this line of decisions in view when it said in Woodburn *vs.* Public Service Commission, *supra*:

It must be borne in mind throughout the discussion of this case that the State, acting through its Public Service Commission, is a party to this suit, and consequently judicial precedents arising out of controversies between none but the immediate parties to a franchise are not controlling here. Moreover, the present juncture does not call for a decision of the relative rights of the grantor and grantee of the franchise as between themselves.

The court concludes, therefore, that the State did not surrender its sovereign power to regulate rates by its grant of franchise powers in the charter of 1903; that the delegation is not sufficient to extinguish the power of the State to alter these rates; that the immediate parties to the franchise contracted in this rela-

A. R. E. A. Approves Reports

An Abstract of Results of Discussion at Chicago Convention of Special Interest to Electric Railway Men Is Given

AT THE annual convention of the American Railway Engineering Association held last week at Chicago recommendations of fourteen of the committees were adopted. Abstracts of the reports of a number of these were printed in the issue of the *ELECTRIC RAILWAY JOURNAL* for March 23, page 565; that on stresses in railroad track is given below.

A large part of the time devoted to the paper on ballast was taken up with a moving picture of the Ingersoll-Rand pneumatic tamper at work. The purpose of the picture was to show the labor saving which results from the use of a device of this sort. The only extended discussion on the recommendations of the committee on ballast was over the adoption of a specific section calling for 24 in. of ballast. A standard section for 24-in. depth of ballast was, however, adopted, not for the purpose of stipulating that 24 in. of ballast should be used but that where such depth is used the standard should be followed.

The chairman of the committee on ties suggested

(Concluded from page 617)

tion with the view that the State might later intervene and regulate the rates to meet new and changing conditions, and the rate provisions of the contract do not constitute inviolable contracts, binding upon the State.

In disposing of other contentions of the city of Portland, the court notes that Sec. 2207 of the State laws prohibits under penalties any street railway in cities having a population of more than 50,000 from charging a fare of more than 5 cents within the corporate limits. This law, general in terms but local in its operation, was enacted in 1901. The court believes that it has been repealed by necessary implication by the public service law, just as this act amended or superseded all municipal charters of the State in conflict with its provisions. The public service act embraces the whole subject of rates for public service, and it was the plain purpose of the framers to give expression to the whole law therein.

Whether the public service act is retrospective, or prospective only, is a question of construction. In the court's opinion, the act was plainly intended to embrace antecedent rate contracts. The language of the act itself, various provisions contained therein, the history of its introduction and passage by the legislative assembly, as well as the extended discussion before its ratification by the people under the referendum, all indicate that purpose and intention. The valuation of all public utilities, the submission of reports, the schedules of rates required to be filed with the commission, with the practical construction placed upon the act by the officers charged with the duty of executing its provision, are persuasive reasons for this conclusion. Moreover, this statute has been construed to be retroactive in the state of its origin. (*President and Trustees vs. Southern Wisconsin Power Company*, 135 N. W. 504; *Manitowoc vs. Manitowoc & Northern Traction Company*, 129 N. W. 929; *Woodburn vs. Public Service Commission*, *supra*.)

that as the report of the committee consisted entirely of recommendations and information rather than any definite plans to be adopted, the committee make no report at this time but continue for another year. This suggestion was followed. Specifications were adopted for quenched carbon and carbon alloy steel joint bars, to be substituted for the specification for heat-treated oil-quenched steel joint bars now in the Manual. Specifications were also adopted for quenched carbon alloy steel track bolts and nuts, and for medium carbon steel track bolts and nuts, to replace the existing specifications for track bolts. The committee's recommendations regarding the location for physical test specimens and of chemical sandals from rails were accepted. With certain slight modifications also, the ten conclusions relative to the drainage of roadway through station and yards were adopted.

On the subject of signs, fences and crossings recommendations specifying the dimensions of flangeways were adopted as were conclusions relative to concrete fence posts. One conclusion adverse to the use of concrete posts in the general vicinity of salt water was referred back to the committee. Photographs illustrating different types of fences were approved for the purpose of supplementing matter now in the Manual.

The recommendations of the committee on track with respect to certain changes in the Manual were accepted and a design for cut track spikes was adopted.

PROGRESS REPORT ON STRESSES IN RAILROAD TRACK

This report was presented by a joint committee of the American Railway Engineering Association and the American Society of Civil Engineers and is being presented simultaneously to each society. Owing to its volume, it occupying nearly 200 pages of the Bulletin, only a brief résumé can be given here. It presented the results of study and experiment extending over a period of more than four years. These tests show that rail stresses are reduced by solid and rigid roadbed construction, by deep ballast, by heavy rail and by thorough tamping. Thousands of measurements of track depression and rail stresses were made, under both standing and moving loads. As a whole they demonstrate that railway track is an elastic structure, acting in accordance with Hooke's law and thus susceptible to exact engineering treatment. More specifically, various practical facts were brought out, among them the following:

1. The span between ties does not govern the stresses in the rail, these being determined by the general track depression.

2. Both rail stress and track depression increase in direct proportion to the load.

3. Both rail stress and depression are least for well-ballasted roadbed and greatest for poor roadbed; stone ballast is better than cinders and deep ballast better than shallow ballast. Thorough tamping reduces deflections and stresses.

4. Rail stresses are less in heavy rail than in light rail.

5. A train produces higher rail stresses at high speed than at low speed; the increase may exceed 50 per cent.

6. The stress in the outer flange of the rail generally is much larger than that in the inner flange. The rail is subjected to a certain amount of transverse bending.

Public Utility Situation Outlined

Regional and State Committees Appointed and General Condition of Public Utilities Described in Statement Just Issued by National Joint Committee—Utilities Willing to Bear Their Share of War's Burden, but in Interest of Nation They Should Be Kept in Condition to Render Good Service

THE national committee on public utilities, with headquarters at 957 Munsey Building, Washington, D. C., has just issued a statement describing the public utility situation under war conditions. Copies of this statement have been sent to the branch regional committees representing the War Board of the American Electric Railway Association and the other associations concerned, so that they will take steps to bring this matter to the attention of the public. A copy of the statement follows:

A committee representing the American Electric Railway Association, the National Electric Light Association, the American Gas Institute and the National Commercial Gas Association, and consisting of Philip H. Gadsden, E. K. Hall and H. H. Crowell, has brought to the attention of the government officials at Washington the condition and needs of the public utility industry, with the result that President Wilson, Secretary McAdoo and Comptroller of the Currency Williams have all publicly expressed their concern as to the situation and have urged, in the interest of the national program, that state and local authorities take such steps as may be necessary to assist the utilities in preserving their credit and their service. These utterances of the President and his associates have been printed in pamphlet form and widely distributed.

The officers of the national associations believe the reasons that actuated those government officials in sounding a public warning of the necessity for liberal and sympathetic treatment of utilities should be brought to the attention of regulatory commissions and local authorities by the national associations interested, not from the standpoint of any particular corporation or utility and not affecting the interests of any one company or group of companies, but solely with regard to the broader national interest involved and the relation of the utilities to the general war program and the whole financial structure. Something more than the preservation of these utilities themselves is at stake.

The prompt and successful mobilization of men, money and materials, essential to the winning of the war, is predicated upon a continuous and constantly extending provision of light, heat, power and urban and interurban transit facilities in every section of the country. The services which in ordinary times were a local convenience have become in this period of universal stress a national necessity.

The average person never stops to think that if the services of the public utilities throughout the country should stop, the whole war program would instantly collapse. It follows that in so far as the efficiency of the public utilities is impaired the war program is proportionately delayed and interfered with.

While new construction and extensions will, during the period of the war, be held down to necessary requirements, it is absolutely impossible to refuse arbitrarily to make any additions or extensions. The direct war program or the general welfare of the public will require in most sections of the country some additional service. This, of course, requires funding of extensions to plant which can only be consummated by the rehabilitation and preservation of the credit of the utilities. The rapidly rising line of increasing operating costs has in some instances already crossed the horizontal line of inflexible rates—rates that were fixed on a pre-war basis and that are totally inadequate to meet existing conditions.

The securities of public utilities have long been a favorite form of investment for both small and large investors, savings banks, insurance companies and trustees, and are to be found as collateral for loans in every national and state bank. Their depreciation accordingly threatens the whole financial structure. If relief cannot speedily be had and the companies are forced generally to adopt the

practice of suspension of dividends, the nation's ability to subscribe for Liberty Bonds, and one of the government's chief sources of supply for income taxes, will be seriously diminished. Paul Warburg of the Federal Reserve Board recently stated before the Senate finance committee that it would be most serious for the nation's financial program if the corporations should be forced to suspend payment of dividends.

The conclusion reached by the officials of the government, in Washington, from their study of the situation, was that the really fundamental solution of the problem lay in a speedy increase of rates to absorb the increased costs of doing business, brought about by war conditions. It is equally clear that they were satisfied that the ordinary procedure for an increase of rates was utterly inadequate to meet the emergency.

It is the belief of the national associations that if the general public utility situation can be presented to the state commissions, and municipal authority along the same general lines on which it was presented to the authorities in Washington, that they must inevitably come to the same conclusion. Accordingly, the national associations are undertaking to have the general public utility situation brought to the attention of the state commissions and municipal authorities in conferences entirely dissociated from any individual rate case, in the hope that the matter of increased rates may be approached from the broad point of view of the vital general public and community interest and the interest of the nation itself, rather than solely from the viewpoint of a controversy between a local utility and its patrons.

To bring the question before the local authorities from this point of view it was thought that it would be effective to have it presented by representative committees in each state acting for and in behalf of the national associations.

The national associations have asked P. H. Gadsden, E. K. Hall and H. H. Crowell, the committee which represented the associations in Washington, to take charge of this work and to organize regional and state committees throughout the country for this purpose. Such committees have already been formed.

Apparently several of the commissions do not realize that the whole principle of regulation is now receiving its supreme test. If it is found to be too inelastic to respond promptly to abnormal conditions, it will have failed to justify its existence. It is vastly more important that the regulatory system should demonstrate its ability to preserve the efficiency and comprehensiveness of the service, than it is to demonstrate that it is able to prevent, here and there, an occasional exorbitant rate, all of which have long ago been corrected.

Everyone will agree that no public utility ought to make any additional profit by reason of the war, but this is an entirely different proposition from the suggestion that their profits should be cut during the war. Utility profits at all times are limited to a reasonable return on the investment. Anything less than that becomes permanent loss, for it can never be recouped from profits always limited to a reasonable return. The result is sure to be impairment of utility credit and reduction in the efficiency of its service.

If a utility's "assuming its share of the burdens of the war" means that officers and employees of public utilities must furnish more service with less facilities and equipment to work with than under normal conditions; that they must find a way to continue these services, notwithstanding increasing costs of materials and labor; that they must work harder to overcome extraordinary obstacles and handicaps in order to accomplish more than ever before, then of course the public utilities should bear their share of the burdens of the war, and they are doing it now and will continue to do it gladly. But if it is intended to suggest that the utilities should furnish these services at less than the cost of production and that these services should in part be rendered gratuitously, this is asking them to carry more than their fair share, it is neither just nor in the public interest, for the result must be impairment of credit,

shrinkage of value and securities, reduction in dividends and a consequent reaction upon the many thousands of investors holding these securities, which will diminish their capacity to subscribe for government loans and ultimately threaten the foundations of the general credit structure of the entire country.

REGIONAL AND STATE COMMITTEES

Announcement has also been made in Washington of the appointment of the regional and state committees of the National Committee on Public Utility Conditions, the functions of a regional committee being to appoint a committee for each state in its district. The names of the members of the regional committees and the chairmen of the state committees already appointed follow:

REGIONAL COMMITTEES

I—*Maine, New Hampshire, Vermont, Massachusetts and Rhode Island.*

*H. G. Bradley, Stone & Webster, Boston, Mass.; C. L. Edgar, Edison Electric Illuminating Company, Boston, Mass.

II—*New York, Pennsylvania, Connecticut, New Jersey and Maryland.*

*J. K. Choate, J. G. White Management Corporation, New York City; T. N. McCarter, Public Service Corporation of New Jersey, Newark, N. J.; C. M. Cohn, Consolidated Gas, Electric Light & Power Company, Baltimore, Md.

III—*Ohio, Michigan, Indiana and Illinois.*

B. I. Budd, South Side Elevated Railroad, Chicago, Ill.; *H. H. Crowell, Michigan Railway, Grand Rapids, Mich.; F. W. Coen, Lake Shore Electric Railway, Sandusky, Ohio.

IV—*Wisconsin, Minnesota, South Dakota, Iowa, Nebraska, Kansas and Missouri.*

P. J. Kealy, Kansas City (Mo.) Railways; William Chamberlain, Brown, Chamberlain & Hanselik, Cedar Rapids, Iowa; *James D. Mortimer, North American Company, New York City.

V—*Utah, Colorado, Idaho, Wyoming, Montana, Washington and Oregon.*

F. T. Griffith, Portland Railway, Light & Power Company, Portland, Ore.; *M. H. Aylesworth, Utah Power & Light Company, Salt Lake City, Utah; G. W. Talbot, Pacific Power & Light Company, Portland, Ore.

VI—*California and Nevada.*

*J. A. Britton, Pacific Gas & Electric Company, San Francisco, Cal.; Paul Shoup, Pacific Electric Railway, Los Angeles, Cal.

VII—*Virginia.*

*George J. Seay, Government Federal Reserve Bank, Fifth District, Richmond, Va.; B. B. Ferguson, Portsmouth (Va.) Gas Company; J. W. Hancock, Lynchburg Traction & Light Company, Lynchburg, Va.; T. S. Wheelwright, Virginia Railway & Power Company, Richmond, Va.

VIII—*Georgia.*

R. C. Congdon, Atlanta (Ga.) Gas Light Company; John S. Bleeker, Columbus (Ga.) Electric Company; *P. S. Arkwright, Georgia Railway & Power Company, Atlanta, Ga.

*Asked to assume responsibility of organizing committee.

CHAIRMEN OF OTHER STATE COMMITTEES

Alabama—J. S. Pevear, Birmingham Railway, Light & Power Company.

Arizona—R. G. Arthur, Douglas Traction & Light Company.

Arkansas—C. J. Griffith, Little Rock Railway & Light Company.

Delaware—T. W. Wilson, Wilmington & Philadelphia Traction Company.

Florida—C. I. Day, Southern Utilities Company, Jacksonville.

Hawaii—L. T. Peck, Honolulu Rapid Transit Company.

Kentucky—Donald McDonald, Louisville Gas & Electric Company.

Louisiana—D. D. Curran, New Orleans Railway & Light Company.

Mississippi—H. E. Brandli, Meridian Light & Railway Company.

Connecticut Six-Cent Fare Is Reasonable

Commission Denies Preferential Fare to City of Hartford—Says Modified Zone System Would Require Careful Investigation

A 6-CENT fare is not excessive or unreasonable for the Connecticut Company, New Haven, Conn. Such is the finding of the Public Utilities Commission, handed down on March 23. The plea of the city of Hartford for the restoration of the old 5-cent fare has thus been denied.

On Oct. 1, 1917, after an announcement made ten days before, the Connecticut Company increased its unit fare from 5 to 6 cents on all sections of its 503-mile system. This action was taken under the commission law, which permits utilities to modify company-made rates subject to commission review upon complaint. The city of Hartford petitioned for relief from the new rates, and its allegations formed the sole basis for the case now decided.

NOT NECESSARY TO FIX RATE OF RETURN

In its analysis of the situation the commission states that the question of the valuation of the company's property as a whole loses its importance because the present rates are not producing sufficient revenue to pay any dividends. Moreover, the question of a proper rate of return is not material or necessary for the commission to determine in this case, as the minimum rate of return, without being confiscatory, on a most conservative valuation of property as a whole, would be considerably more than the present fare will produce.

The city of Hartford conceded that the company as a whole should receive more revenue than that obtained under the old rates, but it asserted that its lines and those extending from it should be treated independently. The commission states, however, that during the exhaustive hearings no facts were shown which would warrant a finding that any particular division or municipality, or combination of divisions or municipalities less than that involving the whole system, should bear all the burden of producing the necessary increased revenue, or that any particular division or municipality should be relieved from bearing its share of such a burden.

In discussing further the unity of the company's system in rate-making, the commission says:

"If the lines in the city of Hartford were to be segre-

New Mexico—W. S. Townsend, Las Vegas Transit Company.

North Carolina—R. L. Lindsey, Durham Traction Company.

North Dakota—R. B. Griffith, Grand Forks Street Railway.

Oklahoma—J. W. Shartel, Oklahoma Railway.

Philippine Islands—C. N. Duffy, Manila Electric Railroad & Light Corporation.

Porto Rico—O. M. Sewall, Porto Rico Railway Light & Power Company, San Juan.

South Carolina—William Elliott, Columbia Railway, Gas & Electric Company.

Tennessee—T. H. Tutwiler, Memphis Street Railway.

Texas—L. C. Bradley, Stone & Webster Management Corporation, Houston.

Washington, D. C.—Howard Reeside, Washington Gas Light Company.

West Virginia—J. O. Watson, Monongahela Valley Traction Company, Fairmont.

gated and an accurate account of each could be obtained, it would undoubtedly show that certain lines could be operated even on a 5-cent basis at a substantial margin of profit, while others would be operated at a loss. If all the lines in Hartford were to be segregated from radiating and contributing lines, it might show that the Hartford city lines with the traffic from radiating and contributing lines could be operated at a profit on a 5-cent unit of fare. But the present volume of traffic on the city lines, as well as the general business of the city, is more or less dependent upon the traffic brought in over the suburban and contributing lines, and any segregation of parts or radical differentiation in rates would detrimentally affect the social and economic structure upon which all the co-related communities were developed.

"It is unquestionably true that in the electric railway development of Connecticut, certain remote and isolated lines and extensions were built which are not and never have been self-supporting, but which are connected with and form a part of the company's present system. If these lines were to be segregated and made entirely dependent upon their own produced revenue, the rates for the limited service thereon would have to be so high as to be prohibitive, and abandonment would necessarily follow. Electric railways have been important factors in the commercial and industrial development of Connecticut, and the abandonment of some of the remote and unprofitable lines would be a very serious loss to the territory thus served, and a step backward in the general development of the State.

"Hartford and its suburban adjoining and contributing sections are not dissimilar in electric railway conditions from other populous centers in the company's territory and their respective suburban adjoining contributing sections, excepting that Hartford, under an ancient agreement, has the benefit of 2 per cent of the gross receipts of fares received within the city limits."

MODIFIED ZONE SYSTEM WOULD REQUIRE STUDY

The present fare system of the company is based upon a 6-cent unit fare for sections of varying length, longer rides being allowed in the more densely populated localities. The city of Hartford attacked this system as inequitable and urged that if the elimination of the present system in the populous centers, as Hartford, is impracticable, the city zone should be contracted with outer limits of equal radius from the recognized center, the charge therein to be the 5-cent unit of fare, and that traffic outside of such zone should be carried either on the present zone system, rearranged, or on a mileage basis.

In regard to this proposal the commission says:

"No traffic figures were produced from which it could be determined how much increased revenue, if any, such a plan would produce. Its general adoption, however, would eliminate the populous centers and relieve the larger number of electric railway passengers from sharing the burden of producing the necessary increased revenue, which would then have to fall upon the comparatively few.

"However defective the present long-established system may be, any radical change therefrom should not be adopted without careful study and analysis of traffic and other railway conditions on the particular lines and system to be affected. This is a practical though somewhat

complex economic problem which the transportation company itself, with its experts and intimate knowledge of operating conditions, should primarily solve.

"If the solution is to be made by the commission or any mandatory order issued by it, changing the present system to a mileage system, a combination of mileage and zone system, 'service-at-cost' system or any other system, it could only be done after a careful investigation such as has not been made and could not have been made upon the facts presented in this case. We must, therefore, at this time determine the reasonableness of the rates complained of as levied and collected on the system used by the company."

PAVING OBLIGATION IS HEAVY

The commission remarks that with an estimated increase of 10 per cent or \$904,682 in passenger revenue the company has not reached a solution of its troubles. It adds that the company's statutory obligation to maintain streets and highways is very heavy.

In regard to war burdens, the commission feels that these should be equitably distributed. In its opinion, the added burdens should be borne in part at least by the stockholders as a patriotic duty, as well as by the patrons. That which in normal times would be a fair return in the way of dividends for capital invested, might in war times cause an unequal distribution of the burdens in favor of the stockholders. On the other hand, rates of fare which in normal times would be reasonable, might in war times be unreasonably low, thereby causing an inequitable distribution of the burdens in favor of the patrons. The commission concludes, therefore, that any rate established under war time conditions and influenced by such conditions should be the subject of review as soon as such conditions cease to exist.

Digest of B. of S. Electrolysis Bulletin

SAMUEL S. WYER, consulting engineer, Columbus, Ohio, has prepared a digest of the publications of the United States Bureau of Standards on electrolysis of underground structures caused by stray electric current. The digest is divided into nine parts with the following titles: (1) Cause and Economic Importance of Electrolysis Troubles. (2) Electrolysis Surveys. (3) Corrosion Principles. (4) Relation of Soil Characteristics to Electrolysis. (5) Electrolysis of Concrete. (6) Current Leakage. (7) Mitigation Applicable to Pipes. (8) Mitigation Applicable to Railway Negative Return. (9) Electrolysis Regulation. The digest is well indexed and forms a pamphlet of nearly 100 pages. Copies can be obtained from the Bureau of Standards, Washington, D. C.

Bituminous Coal Mines Doing Better

The latest weekly report of the United States Geological Survey shows that the present rate of output of bituminous coal is considerably above the rate at this time last year. While there was a decline of 579,000 tons during the week ended March 16, the rate of production per working day during that week was 1,781,000 tons, the first time in five weeks during which the production per working day fell below 1,800,000 tons. The average during March, 1917, was 1,729,000 tons.

Public Service Needs \$3,500,000

President McCarter Explains Company's Revenue Requirements at Rate Hearing in Trenton—Must Spend \$6,600,000 for Government Construction

ASSERTING that national needs require the preservation of utility operation, Thomas N. McCarter, president Public Service Railway, Newark, N. J., told the Board of Public Utility Commissioners of New Jersey on March 27 how his company is confronted with an emergency demanding nearly \$3,500,000 of increased revenue. His statements were made at a hearing in Trenton on the company's application for a 7-cent fare, a 2-cent charge for transfers and a 1-cent charge for a transfer upon a transfer.

After explaining the utility situation as seen by Comptroller of the Currency Williams, Secretary of the Treasury McAdoo and President Wilson, Mr. McCarter said that his company's application is not based upon a valuation of the property but is for emergency relief. All the company desires is to be put back upon the 1916 basis. In January and February, 1918, the company ran \$82,500 behind last year in operating revenue, but \$50,000 of this was made up in March. Upon the basis of an estimated increase of about 2½ per cent in operating revenues for 1918, however; of estimated expenses based on present actualities; of 1916 depreciation expenses on a 1918 cost basis, and of an 8 per cent return on new capital since 1916, the company calculates a deficit of \$2,601,698 which must be overcome to reach the 1916 figure.

To the above-stated deficit Mr. McCarter added \$635,714 for additional wage increases which the company feels are necessary and which it will make if the desired fare relief is substantially granted. A further sum needed is \$257,061 for franchise and income taxes, making the total \$3,494,473.

RAISING THE REQUIRED REVENUES

Mr. McCarter expressed the opinion that a 6-cent fare would produce a 10 per cent increase in revenue, or \$1,850,000, and a 7-cent fare a 15 per cent increase, or \$2,800,000. A 2-cent transfer charge was estimated to yield \$850,000, making a total of \$3,650,000. The revenue from the 1-cent extra transfer charge, included above, was put at only \$20,000 or \$30,000.

In the company's view, the only two fares capable of producing the desired revenue are the 7-cent fare with the stated transfer charges, or a 6-cent fare with a suspension of the transfer privilege. Either would be agreeable, but the company believes the first more equitable.

Mr. McCarter said that ultimately a passenger should pay for the distance traveled. With the enormous travel on American railways, however, with the difficulty of collecting the fares and with the interweaving of municipalities in New Jersey, the installation of a zone system would be a protracted job, impractical in the present emergency. An inquiry in regard to ultimate relief along this line, however, would be welcomed. Mr. McCarter added that after temporary relief is granted the company will have no objection to a

thorough investigation of its revenue needs on a regular rate-making basis.

Mr. McCarter then proceeded to tell how the urgent requests of the government for help will involve a total railway expenditure of \$6,643,043 for construction and equipment at present abnormal costs. Including twenty-five new cars just received, 300 new cars are desired for 1918, 125 of these being to meet the wishes of the government.

CAPITAL EXPENDITURE FOR SAKE OF GOVERNMENT

The Shipping Board, Mr. McCarter stated, must have transportation to Port Newark Terminal. The government recently has entered into a contract with the company to advance more than \$800,000 to build a 2½-mile extension, on which an extra fare will be charged. The board has agreed to spread the peak so that the cars will carry 50 per cent of the traffic. On the money advanced the company is to pay 5 per cent during the war, and at the end of this the government will assume 50 per cent of the improvement cost as cost due to the war and the company will pay to the government the remaining 50 per cent, less depreciation, in five annual installments.

The Shipping Board also wants the company to operate additional cars to industries between the Hackensack and Passaic rivers, the companies or the board to build switch and loop tracks for easy entrance. More service is desired on the property of the New York Shipbuilding Company and to the shipyards of Gloucester in the Southern Division, and more power facilities in the Essex Division and the Southern Division.

Mr. McCarter said that for the government A. L. Drum had been making an examination of the railway needs and F. W. Darlington of the power needs. As to whether the government would contract for more than the first unit, as mentioned above, Mr. McCarter thought that the company would get further government aid only in case the government is satisfied that the railway is a solvent going concern. For the carrying out of government plans it is absolutely essential that the whole system be up-to-date and efficient.

CITIES QUESTION JURISDICTION

Jerome T. Congleton, city counsel of Newark, questioned the power of the commission to pass upon the application, in view of local ordinances providing for a 5-cent fare and transfers. The chairman of the commission said that the question of law had just been passed upon by the Supreme Court, but Mr. Congleton replied that the issue might be carried to the Court of Errors and Appeals.

The case referred to above, which was decided by the New Jersey Supreme Court in February, was that of the Northampton, Easton & Washington Traction Company *vs.* the Board of Public Utility Commissioners.

The company had asked the consent of the board to increase its zone rate from 5 to 6 cents. According to the court's findings it was shown to the satisfaction of the board that the railway was being run at a loss each year even without making the necessary allowance for depreciation.

In such a situation the company could not perform its public duty to furnish safe, adequate and proper service and maintain its property in such condition as to enable it to do so. The commission thought that this duty was of inferior obligation to what it conceived was an irrevocable contract in favor of inferior branches of the State government—the municipalities through which the railway runs. The court, however, stated that it was unable to take this view, for reasons stated in an opinion filed the same day in the Collingswood case. The Northampton case, therefore, was remitted to the Board of Public Utility Commissioners for further proceedings, and it might be remarked that the desired fare increase has now been granted, as stated in the ELECTRIC RAILWAY JOURNAL of March 11.

FRANCHISE RATE MUST BOW TO STATE WILL

It appears that in the Collingswood case (Collingswood Sewerage Company *vs.* Borough of Collingswood), by a consent given by the municipality to the company under the act of 1898, maximum and minimum rates were fixed. Subsequently the sewerage company petitioned the New Jersey commission for increased rates, but the board refused permission on the ground of a lack of power.

The Supreme Court on review held that an ordinance granting consent and fixing maximum and minimum rates is a grant upon condition rather than a contract, and that the Legislature may clothe a commission with power to fix higher rates upon petition. The fixing of franchise limits between which the actual price of the service might be established by agreement or otherwise is rather in the nature of a legislative act to prevent extravagance than of a contract. The court considered the question of jurisdiction settled in favor of the board by at least three prior decisions: Public Service Railway *vs.* Public Utility Board, 85 N. J. Law 123; North Wildwood *vs.* Public Utility Commissioners, 88 N. J. Law 81; Atlantic Coast Electric Railway *vs.* Public Utility Board, 89 N. J. Law 407.

The court did not praise the Board of Public Utility Commissioners for turning over to the Borough of Collingswood a duty which the statute imposed on the board. According to the court's decision the board in effect and by inference found that the present service was not adequate, that extensions were reasonable and practicable, that the financial condition of the company could be made to justify the expenditures, and that new capital could be obtained for the purpose if the municipality would consent to a modification of rates. If this view was correct, the court said, the board should have ordered the necessary modification of rates and not shifted the responsibility to the municipality.

The Public Utilities Commission of Illinois has issued an order directing the Chicago, Ottawa & Peoria Railway to observe its agreement with LaSalle, Ill., relative to carrying county officers free of charge to and from county institutions until further notice.

Fuel Administration Announces Zone System for Coal Distribution

New Method of Distribution Will Increase Rate of Flow Equivalent to 5 Per Cent Increase in Production

THE United States Fuel Administration in co-operation with the Director-General of Railroads has announced a zone system to govern the distribution of bituminous coal during the coal year beginning April 1, 1918. Heretofore coal has been distributed practically without regard to the distance between the mine and the consumer. Under the zone system it will be distributed to consuming territory under restrictions designed to avoid transportation waste, but with consistent maintenance of the greatest possible production and a proper supply to all coal users. Every effort will be made to preserve long-established trade relations.

In addition to the saving in transportation the system will provide for the possible retention of something like 5,000,000 tons of coal for Eastern states which heretofore has gone west by rail. As an indication of the saving to be effected by this system it will eliminate the moving of more than 2,000,000 tons of Pocahontas coal to Chicago and other Western points over a haul of about 660 miles. Chicago can obtain this tonnage of coal, and under this system must obtain it, from southern Illinois mines with an average haul of 312 miles. Allowing for the difference in quality in the two coals there will thus be saved 11,400,000 car-miles, estimated to be equivalent to 285,000 car-days. This will permit fourteen additional round trips of twenty days each from West Virginia mines to zone destinations, permitting an additional production of at least 700,000 tons of Pocahontas coal. Similar savings will occur in other sections of the country.

The production of bituminous coal, the movement of which only is regulated by the zone system, is about 300,000,000 tons or 60 per cent of the total production. Based on this production there will be saved on round trips from and to mines almost 160,000,000 car-miles. This will permit the same cars to make almost 300,000 additional trips from the mines, equivalent to an increase of 5 per cent in production. The increases in total production in 1917 over 1916 resulting from all efforts was about 8 per cent.

The zone system affects all bituminous coal except (1) that used for railroad fuel, (2) that moved on inland waterways which is in no way restricted by the system, and (3) that delivered to Canada, which is subject to regulation of the fuel administrator.

The early buying of next winter's supply of coal by consumers throughout the country is considered imperative by both the Fuel Administrator and the Director-General of Railroads. Ample production capacity has been assigned to each of the consuming zones, but these producing fields must be kept working as nearly as possible at the maximum capacity.

The method of enforcement of the zone system is that the Fuel Administration prohibits distribution beyond the limits of the zone and the railroad administration supplements these prohibitions by railroad embargoes. The Fuel Administration will issue permits for the shipment of coal for special purposes to points

outside the zone in which the particular coal desired originates. Applications for permits are to be addressed to the United States Fuel Administration, Coal Zone License Bureau, New Interior Building, Washington, D. C.

Rates the Feature of Meeting

Large Part of First Session of Wisconsin Meeting Given Up to This Topic—Fuel and Taxes Also Discussed

ADDRESSES dealing with problems affecting public utility rates were the feature of the tenth annual convention of the Wisconsin Electrical Association at Milwaukee, March 27-28. Other topics including fuel and technical problems were discussed, but the sessions at which three able speakers presented different angles of the present rate situation were easily the banner sessions. President B. F. Lyons of Beloit sounded the keynote of the meeting in his address pointing out the needs of the utilities of Wisconsin for increased rates and commenting briefly on the national measures of conservation including the shutting down of isolated plants, the interconnection of generating stations and the passage of the daylight savings bill.

The first of the addresses was one by Edwin S. Mack of Miller, Mack & Fairchild, Milwaukee. He dealt with two important phases of public utility depreciation. The first of these was the method treating depreciation reserve in Wisconsin. He contended that while the Wisconsin commission has included depreciation reserve in value, it has not followed out to the logical result that where the depreciated value basis is used, the return on the fund should go to the investor and not to the fund. He expressed the hope that the commission would come to the value-new theory as the one logical and continuous base. So long, however, as the present basis is adhered to it should be kept in mind that depreciation must be on the straight line basis. The other phase of depreciation discussed dealt with the elements of depreciation reserve. The speaker urged that in all valuation cases in determining the rate for setting aside depreciation reserve the commission should grant the allowances not only for the factors indicated in the life tables, which include only age and wear, but also for such other important unforeseeable and dangerous factors as obsolescence, inadequacy and public requirement.

William J. Hagenah, basing his address on curves showing the range of commodity prices over a period dating back to 1817, predicted that few if any public utility managers in the room would live to see prices return to their pre-war level. For this reason he urged the closest co-operation between the utilities and the commissions so that the utilities may be adjusted to the changed conditions under which they are operating and will be obliged to operate for many years.

The third speaker on rates was Harold L. Geisse, secretary of the Railroad Commission of Wisconsin. His paper was devoted to showing public utility men how to prepare and to present rate cases to expedite their passage through the hands of the commission. He made two pertinent suggestions. The first was that the company seeking increased rates advise the

local city attorney or other authority likely to contest the plea of its plans in advance so that this individual could not claim surprise and ask for a delay to prepare for the case. The other suggestion was that at times the use of logarithmic charts for presenting comparative data be adopted for the sake of clarity.

Speaking on the fuel situation W. N. Fitzgerald, Wisconsin State Fuel Administrator, declared that the coming winter would bring a national demand for increased production amounting to 100,000,000 tons. It will be possible to increase production only 50,000,000 tons. The rest will have to be saved by conservation measures. He urged public utilities to help in this work. The committee on taxation, C. S. SeCheverell, Superior, chairman, repeated its assertions of former years that public utilities are discriminated against in the matter of taxes.

Other papers which were to be delivered at the second session were "The Utilities and the War," by M. C. Ewing, Wausau; "Metal Electrode Welding," by Dean Treat, La Crosse; "Increasing the Efficiency of Hydroelectric Plants," by Daniel W. Mead, Madison, and "Three-Phase Four-Wire Distribution," by George E. Wagner, Madison.

AMERICAN ASSOCIATION NEWS

War Board Issues Bulletin on Government Control

AS NO. 13 in its series of bulletins the Electric Railway War Board has sent out a reminder of the duty of the electric railway companies to return to the Commissioner of Internal Revenue a statement of employees' incomes where such exceed \$800 per annum. Some extracts are also given from the federal control bill S3752, which was signed by the President on March 21, indicating certain phrases which refer to electric railways.

Rousing Public Service Meeting at Jersey City

THE meeting of the Public Service section held in the Montgomery Street carhouse, Jersey City, on March 21 was one of the most enthusiastic ever held by the section, 400 employees being in attendance. The meeting was a smoker with quite an elaborate luncheon and a general "get together." Informal addresses were delivered by N. W. Bolen, general superintendent; R. E. Danforth, general manager, and R. E. Perrin, claim agent.

Mr. Bolen summarized the growth of the electric railway business from the early days, and then took up the question of how best to handle the greatly increased business which the war has brought to the State of New Jersey. He analyzed this growth by referring to the increase in a number of industries stretching all the way from Camden to Edgewater. Mr. Danforth told of the greatly increased cost in operation, due to labor and materials price advances, and strongly emphasized the need for additional revenue. He urged the men to do their bit by conserving power and thus saving fuel. Mr. Perrin directed the thought of the

meeting along the lines of safe and efficient operation, in order that the expenditures for claims settlements may be minimized.

As would be expected at a smoker entertainment features of the meeting were prominent. There was music from the Hudson division band and from the West Hoboken carhouse quartet. Two Greenville conductors gave an exhibition four-round boxing bout and the whole company sang patriotic and other songs.

"Electropneumatic Interlocking" Has the Floor at Chicago

A MEETING of the Chicago Elevated Railroads company section was held on March 19, the principal speaker being J. W. Stephenson, signal engineer of the company. He presented a paper on "Electropneumatic Interlocking," with the aid of lantern slides, the idea being to show the members the relation of this feature of operation to their several departments.

M. J. Feron spoke briefly of the gratifying results which had been obtained through the installation of coasting clocks, and took the occasion to express his appreciation of the spirit of co-operation which exists between the men of the transportation and traffic departments, without which this excellent showing could not have been made. H. A. Johnson followed with remarks along the same line, and answered questions which had been asked by a motorman with regard to coasting.

Interspersed with the technical discussion were songs, recitations and ukulele solos. Following a custom which seems to be general among the sections the program opened and closed with patriotic songs. Vice-President R. N. Griffin presided at the meeting, which was attended by seventy-five members and guests.

Rhode Island Company Employees Appoint Section Organization Committee

AS ANNOUNCED in the issue of the ELECTRIC RAILWAY JOURNAL for March 23, employees of the Rhode Island Company, Providence, R. I., plan to form a company section of the American Association on April 9. In response to an inquiry as to the steps which led to the present plan, A. E. Potter, president Rhode Island Company, stated substantially as follows:

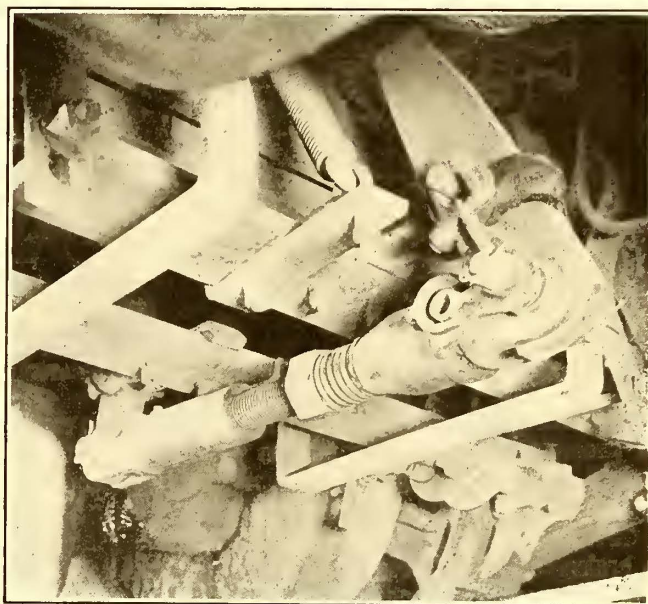
"In order to explain the difficulties confronting the company and the efforts which were being made to secure relief through an increase in fares, etc., the management arranged a meeting on Nov. 30, 1917, to which the heads of departments, foremen and clerical forces were invited. This meeting proved so popular that other meetings were held on Jan. 29 and March 5. At the last meeting the suggestion was made that a company section be formed, and this met with immediate approval. It was unanimously voted to appoint a committee to arrange for the organization of a section.

"The committee appointed consisted of R. R. Anderson, superintendent of transportation; E. J. Cooney, executive assistant; A. B. Gardiner, superintendent of track; A. E. Paddock, general freight agent; C. E. Redfern, claim agent; H. W. Sanborn, chief engineer; H. B. Shaftoe, assistant to the comptroller; B. T. Whitcomb, chief electrician of power distribution, and

The Use of Slack Adjusters as a War-Time Economy

Philadelphia Rapid Transit Company Is Installing More than 4000 Adjusters After Investigation Covering Several Years

MORE than five years ago, in February, 1913, the Philadelphia Rapid Transit Company installed on a car equipped with Brill 39-E trucks its first equipment of Anderson slack adjusters. This equipment was put on for the purpose of giving the device a thorough test, and its operation has since been under the surveillance of the head of the bureau of tests, which is a part of the rolling stock department of the railway com-



SLACK ADJUSTER IN POSITION ON TRUCK

Picture selected to show general principle of P. R. T. adjuster but not detail of brake-beam clamp, for which see drawing.

pany. Whenever there was any adjustment needed and at stated times the engineer of tests examined the adjusters. They have operated so satisfactorily, however, that practically no attention from him was required. About a year ago an outfit was placed on a car equipped with Brill 27-G trucks, also with satisfactory results.

As a result of the tests the company, some months ago, decided to install the adjusters on 2149 cars, and they are being put on now as fast as received.

In deciding to install slack adjusters on such a large scale the officials of the company were convinced that their use would very greatly cut down the labor of inspection and adjustment of brake rigging. Experience had shown that with them no adjustment is necessary during the entire lifetime of a brakeshoe, six weeks or more on the P. R. T. system, on the average. Without them the "brakemen" must go over the brake rigging

W. D. Wright, supervisor of equipment. This committee met with E. B. Burrill, Martin Schreiber and H. C. Clark, representing the American Association on March 19. At this time it was decided to hold a meeting for the purpose of organization on April 9. The general committee has selected two sub-committees, one to submit by-laws and the other to submit nominations for officers at the April 9 meeting."

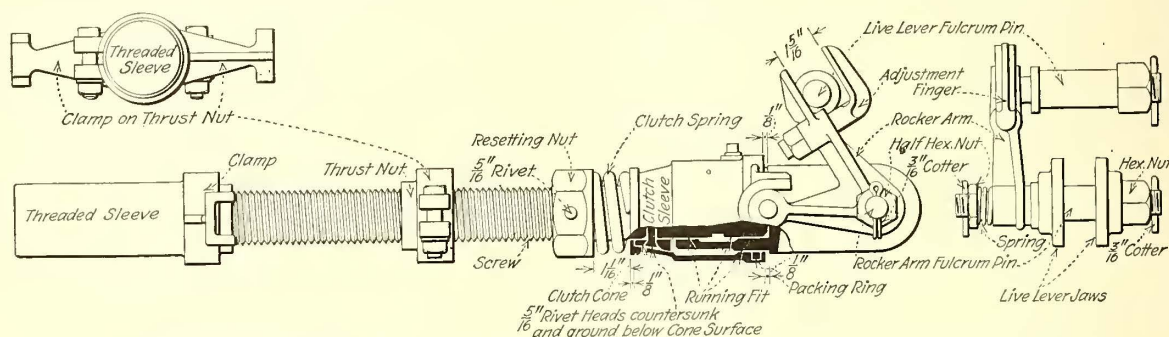
every day or every two days taking up slack. With slack adjusters, when the proper brake setting is once made, the inspector has ample time to attend to other elements of the equipment and the inspection as a whole is much more thoroughly done than would otherwise be the case.

The adjustment of the brake rigging is not only a tedious and time-consuming process, but even a careful pitman is apt to overdo it in the matter of taking up slack and to leave the rigging too tight. The result is that a car leaves the carhouse with brakes in contact with the wheels. That cars do leave the carhouse with brakes set too tight is indicated by the sluggishness with which some of them operate for a time after inspection. They slow down far too rapidly when

The adjuster connects the lower end of the live lever with the brake beam by means of a screw, the rotation of which increases the distance between the brake beam and the end of the live lever and thus makes up for brake wear.

The screw is rotated by means of a clutch at one end, operated through a bell-crank by the upper live-lever fulcrum pin. At the right in the drawing are shown the special live lever fulcrum pins which are necessary to support and operate the bell crank and also to support the clutch end of the screw. The upper fulcrum pin plays between two jaws, one of which is adjustable, the clearance being just sufficient to permit normal operation of the brake rigging when properly adjusted.

If when the brakes are applied there is too much



GENERAL ASSEMBLY DRAWING OF AUTOMATIC SLACK ADJUSTER FOR USE ON DOUBLE-TRUCK CAR

power is shut off. The result of tight setting is to cause an excessive rate of consumption of brakeshoe metal and of electrical energy, besides producing a tendency to decreased schedule speed.

Obviously the slack adjusters will cause a reduction in brakeshoe wear, accompanied by less wheel wear and less armature maintenance cost. The last-named item is one considered as very important by the P. R. T. engineers.

Aside from the direct savings mentioned above as due to the use of slack adjusters, a great operating advantage is secured in the smaller number of car "pull-ins," particularly those due to failure of the brakes to hold. A common complaint from motormen has been: "The brakes on this car are not holding well." They turn the cars in for brake adjustment, and thus car-hours are lost while the cars are awaiting their turn for inspection, and man-hours (or man-minutes) are lost while the adjustments are being made. There is also a psychological operating advantage in always having the brakes in "A-1" condition, in that the motormen will operate their cars with greater confidence and will thus have an easier time in keeping up the schedule speed.

From the standpoint of the brake rigging itself there is a great advantage in having a uniform piston travel, and the tests have shown that with the adjuster the variation is very small. On the P. R. T. property it varies between $5\frac{1}{4}$ and $5\frac{1}{2}$ in.

A description of the Anderson slack adjuster as applied to single-truck cars (Brill 21-E, Taylor and St. Louis trucks) appeared in the issue of the *ELECTRIC RAILWAY JOURNAL* for Sept. 30, 1916, page 690. The accompanying line drawing shows the device as adapted to the Brill 39-E truck, the construction shown being that used on the P. R. T. system for trucks of this type.

slack the clutch is rotated by the bell-crank in a clockwise direction, the outer shell slipping upon the cone. The clutch slips because the main screw, being under compression, is practically locked against rotation. When the brakes are released the bell crank rotates the clutch in a counter-clockwise direction, taking the screw along with it and compensating for wear.

The illustration shows all of the parts mentioned and in addition the clutch spring for maintaining the proper pressure between the cone and shell of the clutch, with the nut for adjusting it; the thrust nut and clamp for connecting the screw to the brake beam, etc.

Graphical Presentation of Accident Data

IN ORDER forcibly to present data on accidents occurring in its plants the United States Steel Corporation has classified more than 150,000 of these and presented the results in graphical form for consideration by its employees. While the particular classification would not be applicable to electric railways, the method of presentation would be effective in this field. First, all accidents are segregated in groups and the numbers reduced to percentages. The entire list is represented by a large circle divided into sectors, in the familiar fashion, the whole representing 100 per cent. The groups in this case are hand labor, machinery, mines, roadroads, burns, eyes, falls and all other causes. Surrounding the large circle are seven smaller ones each representing one of these groups and each appropriately subdivided.

A boiler-inspection bureau for the State of New Jersey was provided by the legislature at its recent session by passage of Senate Bill No. 209. The act goes into effect immediately.

News of the Electric Railways

TRAFFIC AND TRANSPORTATION

FINANCIAL AND CORPORATE • PERSONAL MENTION • CONSTRUCTION NEWS

Vote to Develop Water Power

Nation's Business Men Call on Congress to Provide for Utilizing the Country's Water Power

By sweeping majorities of 500,000 business executives who comprise the membership of the United States Chamber of Commerce adopted resolutions on March 27 calling on Congress to make provision for harnessing the millions in water horsepower that now are idle. The vote was taken through the more than 1000 commercial organizations throughout the country which compose the National Chamber.

The balloting was based on a series of recommendations contained in the report of the committee on water power development of the United States Chamber of Commerce. These recommendations were presented in the following order:

1. That federal legislation encouraging the development of water powers should at once be enacted; adopted by the almost unanimous vote of 1324 to 6.
2. That authority to grant permits should be vested in an administrative department; carried by a vote of 1253 to 17.
3. That the permit period should be at least fifty years, any shorter period being at the applicant's option; in favor 1216, opposed 42.
4. That tolls should attach only to use of public lands or benefits derived from head-water improvements; adopted by a vote of 1191½ to 40½.
5. That permittees should be entitled to acquire the right to use public lands forming only a small and incidental part of the development; carried by a vote of 1210 to 25.
6. That recapture should be exercised only upon payment of fair and just compensation; in favor 1234, opposed 25.
7. That if recapture is not exercised, the investment of the permittee should be adequately protected; adopted by a vote of 1226 to 26.
8. That rates and service should be regulated by state commissions where the service is intrastate, with federal regulation only where several states are directly concerned and do not agree, or there is no state commission; carried by a vote of 1177 to 57.
9. That if any jurisdiction to regulate the issuance of securities is exercised it should be solely by the state; in favor 1114, opposed 117.
10. That no preference should be granted as between applicants amounting to a subsidy from the government creating unequal competition; adopted by a vote of 1191 to 38.

The committee which drew up the re-

port and presented the resolutions was composed as follows:

L. S. Gillette, chairman, Minneapolis; Harry A. Black, Galveston; Rome G. Brown, Minneapolis; Henry S. Drinker, Bethlehem, Pa.; Frank P. Glass, Birmingham; E. K. Hall, New York; Horace C. Henry, Seattle; Henry L. McCune, Kansas City; Samuel V. Stewart, Virginia City, Mont.; George F. Swain, Boston, and C. F. Weed, Boston.

While the committee's report is in itself favorable to positive legislation to enlarge water-power development, every ballot sent out was accompanied by an argument in the negative which clearly and positively set forth objections to the recommendations so that those voting had at hand data on which to base their judgment for or against.

Peter Witt on Co-operation

Former Commissioner of Cleveland Tells How City and Company Benefited Under Taylor Grant

Peter Witt, former street railway commissioner of Cleveland, Ohio, was a witness recently before the Massachusetts legislative committee on street railways. He urged the service-at-cost plan of operation for the roads there. During the hearing he reviewed the railway situation in Cleveland. Mr. Witt is reported to have said:

"Neither Tom Johnson and his followers nor the officials of the railway in Cleveland thought very much of the plan at the time it was adopted, but at the end of eight years it has proved a success from every viewpoint and nobody in Cleveland would think of going back to the old order of things.

"Let me tell you how the plan was started. Mr. Johnson and his followers wanted public ownership. This the laws of the State denied. The railway wanted private ownership. The voters were opposed to this. The service-at-cost plan was then devised, after prolonged negotiation. Its purpose was, and is, not only to give the people the sort of service that they want and need, but also to protect the investors and assure them a reasonable return on their money.

"In Cleveland, experiences show that one of the first benefits to be gained through the co-operative plan is in getting the confidence of the riding public, and to change people who have been continual 'knockers' into sincere 'boosters.' Again, the plan makes it easy to finance the properties. This, in turn, enables the companies to make improvements when and where they are needed."

Construction Disapproved

California Commission Carries Into Effect Its Recently Announced General War Policy

The Pacific Electric Railway, Los Angeles, Cal., has been denied authority by the California Railroad Commission to build a line from Anaheim through Tustin to the town of Irvine, a distance of about 11 miles, and also a line from Glendora to Lone Hill, about 4 miles. Witnesses for the company testified that arrangements had practically been completed for laying the tracks. The estimated total cost of both lines is more than \$440,000, of which more than \$127,000 has been spent for right-of-way, engineering work and materials.

In its decision refusing the application the commission stated, in part:

"There is nothing to indicate that either of these lines is more needed now than before the war. The company states that these new lines are planned primarily to increase net revenue. The fact that the country is at war, and is husbanding for war purposes its resources in men, money and materials is a factor too powerful to be ignored. True, the Pacific Electric Railway was not included among the railroads taken by the government, but the Southern Pacific, which controls the Pacific Railway, was included and so was the Santa Fe."

Commissioner Alex Gordon, who wrote the decision, did not agree with President Paul Shoup of the Pacific Electric Railway that it is the policy of the government to turn business from the steam to the electric lines if the electric lines are first to be constructed. Commissioner Gordon said:

"There is another phase of the situation which should be mentioned. The Southern Pacific and the Santa Fe are competing with each other for business over the entire southern part of the State. Neither could make extensions without the consent of the Director-General of Railroads. However, the Pacific Electric Railway, a subsidiary company of the Southern Pacific, which was not included in the government's orders, can make such extensions as it desires, as far as the federal government is concerned. As the new lines are so close to existing lines of the Santa Fe, the bulk of the earnings of both lines will come from freight diverted from the Santa Fe. If the railroads are eventually turned back to their private owners the present situation seems to be unfair, although this aspect of the matter is possibly one for the federal government rather than for this commission to consider."

Letters and Opinions Fly in New York

Lively Discussion by Mayor, Railroad Executive and Commissioners Follows Fare Appeal

A four-cornered exchange of letters and expressions of opinion in New York City has resulted from the appeal of the electric railways to the Legislature for a 6-cent fare. The participants have been Theodore P. Shonts, president of the Interborough Rapid Transit Company; Mayor John F. Hylan and Public Service Commissioners Hervey and Whitney. The exchange of amenities was started by Mr. Shonts, who in a letter to the Mayor, pointed out that the purpose of the increase was to insure the payment of the Interborough's preferential under the dual system contracts and to insure sufficient earnings to keep the New York Railways out of bankruptcy. In part, Mr. Shonts wrote as follows:

"Using this increased rate as applicable to the Interborough's earnings of last year—which aggregated about \$40,000,000 on a 5-cent basis—and on the theory that all persons who rode on a 5-cent basis would ride on a 6-cent basis, the Interborough earnings would be \$8,000,000 greater, and, of course, this would have been all net.

"Therefore, assuming that the average preferential which the Interborough would receive out of this \$8,000,000 was \$2,000,000 a year, it would leave \$6,000,000 for other purposes. On the theory that the city will have, when the work is completed, \$100,000,000 invested at 4½ per cent in the Interborough's system, the next deduction from the \$8,000,000 increase above mentioned would be \$4,500,000 to pay the return on the city's investment. This on top of the \$2,000,000 to pay the Interborough's preferential in full would absorb \$6,500,000 of the \$8,000,000, leaving \$1,500,000 out of which to meet the increased labor demands which, in the nature of things, will be presented at the expiration of the present contracts with the Interborough employees—about Sept. 1 of this year.

"I further pointed out to you that this \$4,500,000 chargeable to the city could only be provided for in one of two ways; either by putting the burden on the taxpayer in the one case, or on the farepayer in the other."

Mayor Hylan in his letter to Mr. Shonts indicated that he would not aid any attempt to increase fares on New York transportation lines, but would do all he could to have the lines taken over and operated by the city. The Mayor also made it plain that he heartily disapproved of the dual system contracts.

In a later letter to Mr. Shonts the Mayor stated that it was his belief that even though the 6-cent fare was not put into operation the Interborough will be forced under the rapid transit contract to put the dual system into operation. In the letter the Mayor flayed the Public Service Commission

for its delays in putting the Lexington Avenue and Seventh Avenue subways into operation, and intimated that its reluctance might be due to the hope that the delay might help in securing the 6-cent fare.

Public Service Commissioner Charles S. Hervey next issued a statement in which he opposed legislation at Albany for a 6-cent fare on the surface and rapid transit lines of the city. Mr. Hervey's objections are based on his belief that, so far as the surface lines are concerned, the present public service law is adequate to give promptly any relief to the companies which is justified by present conditions. With respect to the subway and elevated lines of the city, he pointed out that there was no need for legislation because the Board of Estimate & Apportionment, the Public Service Commission and the railroads acting jointly could fix any rate of fare that was adequate and proper, by a modification of the existing dual contracts. Such a modification did not require action by the Legislature.

COSTS BROOKLYN COMPANY 6½ CENTS FOR EACH PASSENGER

Travis H. Whitney, of the commission, indicated in a statement issued on March 25, that despite the Mayor's opposition to 6-cent fares the commission was sympathetically inclined toward the plaint of the Brooklyn Rapid Transit Company. Mr. Whitney said that every 5-cent passenger on the new subway lines costs that company about 6½ cents. His statement dealt with No. 4 of the dual subway contracts between the city and the company. Mr. Whitney said that from August, 1913, to January, 1918, the city's deficit had been \$4,947,244 and that of the Brooklyn Rapid Transit Company \$1,148,221. He explained that the company was permitted under the contract to dip into the pooled earnings to pay its interest and sinking fund. War conditions were responsible for the deficits. He compared the situation to that in which the railroads found themselves when the government took over their operation. He said:

"The principle that when the public requires large extensions of service, or control of operation, the company is entitled to a certain preferential and that the public will pay the remaining expenses out of taxes has been followed in the case of trunk line railroads of the United States. The President has taken the railroads because of war conditions and the companies are being guaranteed a certain return. If the revenues are insufficient the deficit is to be cared for out of appropriations by Congress of moneys arising out of some form of taxation.

"In order to keep such deficit, payable by Congress, to a minimum, Director General of Railroads McAdoo has indicated his intention to increase rates, eliminate duplicate service, reduce passenger service and effect other economies. The principles which the commission and the city placed in the dual contracts in 1913 are the principles now being followed in respect to the national control of the railroads of the country."

Mayor Hylan sent another letter to Mr. Shonts on March 26 in reply to the letter, in which Mr. Shonts asked the Mayor to define his position in regard to the Interborough's request to be allowed to charge a 6-cent fare on its lines. In his letter of March 26 the Mayor called upon Mr. Shonts to furnish him with data showing in detail the expenses of his various companies as well as the number of passengers carried on all the lines during the last five years. In regard to fares the Mayor said:

"No further proposition need be made to me. I will not become involved in any plan that connected me in any way with those who have been in sympathy with this method of plundering the city. I shall direct the commissioner of accounts, the corporation counsel, and every other public official that I can command, to look into these transactions and see if something cannot be done to protect the city."

Mr. Shonts has promised to have the data prepared at the earliest possible moment.

Exciting Times

Session of New York Senate Enlivened by Passage at Arms Over Municipal Ownership

The Senate of New York on March 26 passed by a vote of twenty-eight to twenty the resolution of Senator Elon R. Brown creating a committee of seven Senators to investigate the question of municipal ownership. Senator Brown asserted that municipal ownership was a step toward socialism, and that now that the war is on the people should devote their energies to supporting the battle line of the allies in France and not to upset established institutions, as the bolsheviks in Russia are doing. On the other hand, Senator Wagner, the Democratic leader who introduced the bill, fostered by Mayor Hylan of New York, charged that the resolution was a parliamentary trick and an effort to sandbag the whole proposition.

Senator Slater charged that the municipal ownership bill was nothing but a political boom for William Randolph Hearst. He is reported to have said:

"It is the jellyfish and toad bill, and it was born in Palm Beach after a conference attended by Hearst, Hylan and Fingy Connors."

After Senator Ottinger had also criticized Mayor Hylan, Senator Foley, a

Tammany member, objected to his language on a question of personal privilege.

A second resolution by Senator Brown, appropriating \$5,000 so that the municipal ownership committee could continue its investigations through the summer and fall and report to the next Legislature was defeated, getting only twenty-five votes. The result is that the committee will have to consider all municipal ownership measures at this session unless the Senate reverses its position later.

Sympathetic Strike in Kansas

Railway Company Not Affected, but Some Light and Power Company Men Go Out

Business agents of labor in Kansas City, Mo., on March 15, following suggestions from several of their unions, announced that a general strike would take place on March 23 unless the laundry owners had effected a settlement with the drivers who quit on Feb. 18. Since the strike of the laundry drivers, the laundry owners, who had resumed operations with other workers than the strikers, have consistently responded to all suggestions of arbitration that they were operating their plants and had nothing to say to the unions.

The situation is far different in regard to this strike of laundry drivers, and the general threatened strike, than was the case last summer and fall. At that time, for various reasons, a considerable public sentiment was on the side of the striking electric railway employees, and workers in other industries that were suspended. Eventually sympathy turned the other way; and it has been getting stronger the other way ever since. At the present time, there is very little public sympathy on the side of the union men who are fomenting the general strike. The public seems to believe that a general strike would be merely a useless union expedient to compel unionization of plants which are now giving almost normal service with non-union labor.

The negotiations looking toward a settlement failed, and the sympathetic strike began on the morning of March 27. The employees of the Kansas City Railways voted not to join in the strike and apparently cars will not stop. Four employees at the power plant of the company belonging to other unions struck, but this has not hampered operation. The railway power load, however, increased by reason of the strike of union men employed by the Kansas City Light & Power Company at its two power plants. The brewery workers, bartenders and building trades were the only unions that quit in a body, but many individual engineers and firemen in downtown buildings also quit. In addition a few other minor industries were effected.

A press dispatch dated March 28 indicated that the railway men had gone out under threats of intimidation.

Chicago Program Moving

Rapid Transit Plans Started on Their Way with Possibility of Vote In November

Rapid transit prospects for Chicago through the building of subways and the extension of elevated lines were advanced a step by the action of the local transportation committee of the City Council, which on March 20 concurred in the recommendations of the Traction & Subway Commission and the modifications proposed by the companies.

COMMITTEE WILL DRAFT COMPLETE ORDINANCE

The physical side of the commission's report was abstracted in the *ELECTRIC RAILWAY JOURNAL* for Dec. 9, 1916. The companies agreed to this plan, with a few changes in the location of new elevated lines and the advancement of certain work into an earlier period. Now that the committee has gone on record as favoring the modified plan, a sub-committee of seven Aldermen will proceed with the work of drafting a complete ordinance. If the final report is approved by the City Council, the people of Chicago will have an opportunity to vote upon it, probably next November. If any enabling legislation is necessary, this will be taken up with the next session of the State Legislature in January, 1919.

The transportation improvements so far agreed to call for an expenditure of about \$104,000,000 within a six-year period. Of this amount between \$20,000,000 and \$25,000,000 is already available in city's traction fund derived from a portion of the net proceeds paid to the city during the last ten years by the surface railway companies.

THREE SUBWAY AND FOUR ELEVATED LINES

In brief, the plan calls for the construction of three subways and four elevated railway extensions. One of these subways is intended for use by surface lines, to avoid congestion in the downtown district. Another one will be used to provide additional capacity for rapid transit lines running north and south through the same district. Some of the Aldermen wanted extensions of elevated lines beyond the limits agreed to by the companies, but they were told that to do this would mean that the system would not be on a self-supporting basis.

H. M. Brinckerhoff, who was chief engineer for the commission which made the report, was present at the final session and enlightened the members on several matters about which there was some doubt.

The Traction & Subway Commission is composed of William B. Parsons, Robert Ridgeway and Bion J. Arnold. The expenditure of \$100,000,000 recommended by them in 1916 was called for in the course of nine years. The

ultimate investment to carry out the plans of the commission through the year 1950 is placed at a minimum of \$260,000,000.

Status of Franchises

Action Begun in Tacoma To Determine Whether Commission Can Set Aside Franchise Provisions

The Tacoma Railway & Power Company, Tacoma, Wash., has taken mandatory action to the Supreme Court, to determine finally whether city franchise provisions can be set aside and the statutory limitation of electric railway fare to 5 cents disregarded by the Public Service Commission.

COMPANY DENIED RELIEF.

On petition of Louis H. Bean, manager of the company, Chief Justice Ellis of the Supreme Court has issued an alternative writ of mandate commanding the commission to authorize cessation from franchise obligations and increase of fare, or show cause in the Supreme Court why this should not be done.

In its application for mandatory action, the company declares that the commission has denied it relief from the 5-cent fare limitation and from franchise obligations which require it to pay a gross earning tax, contribute to cost of paving and bridge building and carry employees free, while at the same time the commission holds in the Tacoma Avenue case that unless the company is allowed to charge rates in excess of 5 cents and is relieved of its franchise obligations, it cannot furnish the safe, adequate and sufficient service which the public demands.

In this case, the Supreme Court will have to pass directly upon the disputed law points of whether the commission is empowered by the law creating it to disregard franchise provisions, and to increase fares.

SERVICE HEARINGS AWAIT COURT DECISION

The hearing before the commission on the Tacoma Commercial Club's complaint, charging inadequate railway service in Tacoma, has been postponed until after April 1. Similar action has been taken with respect to the hearing on Seattle complaints.

If the Supreme Court holds in favor of the company's contention that the commission has the power to increase fares and set aside franchise provisions, the commission will then proceed with hearings for the purpose of determining to what extent such action shall be taken. Application made by the company for a writ of mandate provides for this later exercise of jurisdiction by the commission.

Electrics Exempted

President Signs Measure Providing for Government Control of Railroads Until After War

President Wilson signed the railroad control bill on the afternoon of March 21. So far as the electric railways are concerned the measure follows the proclamation of the President on Dec. 26 putting the railroads under government control, but exempting the street and interurban railroads, only those electric railways whose freight receipts exceed their passenger receipts being taken over. That part of the measure dealing with the electric roads is as follows:

"That every railroad not owned, controlled or operated by another carrier company, and which has heretofore competed for traffic with a railroad or railroads of which the President has taken the possession, use and control, or which connects with such railroads and is engaged as a common carrier in general transportation, shall be held and considered as within 'Federal control,' as herein defined, and necessary for the prosecution of the war, and shall be entitled to the benefit of all the provisions of this act: Provided, however, that nothing in this paragraph shall be construed as including any street or interurban electric railway which has as its principal source of operating revenue urban, suburban or local interurban passenger traffic, or sale of power, heat and light or both."

Federal control of the railroads is to continue for and during the period of the war and for a reasonable time thereafter, not to exceed one year and nine months following the date of the proclamation by the President of the exchange of ratifications of the treaty of peace.

Signal Corps Openings

Many Electrical Men Required for Various Branches of Radio Communication Work

The Signal Corps, United States Army, has announced that it can use the services of a large number of wiremen, expert electricians, storage battery men, telegraph and wireless operators, and men with electrical engineering training and experience. They are needed especially in connection with the radio communication systems for use in the military service. This branch of the service has been most aptly characterized as the nerve system of the army. The scope of the work requires men who will fall in general into three classes, namely, radio operators, radio mechanics and field radio experts.

Application blanks for this service may be secured by addressing the office of the Chief Signal Officer, Land Division, Training Section, Washington, D. C. Men of draft age may make application and if qualified will be inducted into the army, at their request, for service in this branch of the Signal Corps. After enlistment or induction,

all personnel will be sent to one of several radio schools for six weeks to three months of intensive training in one of the three general branches of the radio work for which their previous experience qualifies them. Some of the personnel completing these courses will be commissioned, and the opportunity for advancement for all graduates will be dependent on the individual ability.

News Notes

Increase in Wages at Huntington.—A voluntary increase of 2 cents an hour for motormen and conductors has been announced by the Ohio Valley Electric Railway, Huntington, W. Va.

Wage Award Accepted.—Arthur E. Stone, treasurer of the Boston & Worcester Street Railway, Boston, Mass., has reported to the State Board of Conciliation & Arbitration that the company had accepted the wage award of Feb. 14. Under the award the men in the employ of the corporation will receive back pay for a period of eighteen months in some cases.

Advance in Wages in Fort Wayne.—A notice has been posted announcing a wage increase of 2 cents an hour to employees of the Fort Wayne & Northern Indiana Traction Company, Fort Wayne, Ind., with an additional 3 cents an hour when one-man cars are placed in service. Under the new wage schedule men in the service less than a year receive 24 cents an hour. The maximum rate is 28 cents an hour. This applies to men in the service five years or more.

Electrical Workers Strike.—Fifty union electrical workers in the employ of the Des Moines (Ia.) City Railway and the Inter Urban Railway are on strike. The men are asking for an increase of 5 7/9 cents an hour. The company has offered an increase of 2 cents. James J. Barrett, representing the Federal Department of Labor, is at Des Moines, attempting a settlement. The strike affects the armature men, linemen and power-house and sub-station men.

Would Change Commission Law.—Wilson T. Hume, one of the attorneys who represented the city of Portland, Ore., in the case before the court involving the Public Service Commission and the Portland Railway, Light & Power Company over 6-cent fares is drafting a measure that will provide for the enactment of an initiative law vesting municipalities with power to regulate utilities in incorporated cities. He is said to have expressed the opinion that the abolition of the Public Service Commission would not remedy the 6-cent fare situation. Under the

measure proposed by Mr. Hume the commission would still have jurisdiction over the grain department, logging franchises, and utilities outside incorporated cities.

Municipal Railway Fund Provided.—At the city election in Seattle on March 5 the voters authorized the transfer of bonds in the sum of \$350,000 from an original bond issue of \$800,000, for the construction of a double-track municipally owned and operated elevated railway over Washington Street, Railroad Avenue, Whatcom Avenue and Spokane Street, extending from the west margin of First Avenue South to the West Waterway. The line will provide at least a partial solution of the congestion problem in the industrial district and give increased transportation for shipyard workers. Work will progress immediately, and it is expected that the line will be completed within less than six months. Of the \$800,000 bond issue authorized for the construction of the Seattle municipal street railways, \$425,000 has been used to date.

M. O. Negotiation Progress.—The report of M. M. O'Shaughnessy, city engineer of San Francisco, Cal., on the general negotiations for the purchase of the entire United Railroads' properties by the city has been favorably received by the special committee working with the Mayor and the public utility committee of the supervisors. This committee has indorsed that part of the report which arrived at the basis of valuation of the physical properties and the city engineer was authorized to proceed with William von Phul, vice-president and general manager of the United Railroads, to see if an agreement can be reached as to what the net earnings of the company might be for the remaining term of its franchises. Points of agreement previously established in the negotiations were referred to in the ELECTRIC RAILWAY JOURNAL for March 16, page 536.

Suit for \$450,000 Dismissed.—When the United States Supreme Court recently dismissed the suit of the Puget Sound Traction, Light & Power Company against the Duwamish Waterway for \$450,000, the last of the suits was disposed of that were filed against the Waterway district growing out of the several hundred condemnations made by the district several years ago. The company alleged that through the straightening of the river to make the improvements authorized by the district, its power plant had its fresh water supply cut off. Superior Court Judge Kenneth Mackintosh upheld the right of the district to make the improvement. An appeal to the State Supreme Court followed. In affirming Judge Mackintosh's decision, the State Supreme Court held that the plaintiff company had no property right in fresh water in a navigable stream, nor in the bed of the river, as had been held by Judge Mackintosh. The appeal to the United States Supreme Court followed.

Financial and Corporate

Denial Entered

Pittsburgh Companies Ask Dismissal of Action in Which Application Was Made For a Receiver

Reply has been made by the companies to the bill in equity, on behalf of Benjamin C. Allen, acting for himself and other holders of the first mortgage bonds of the Union Traction Company, Pittsburgh, Pa., filed on Feb. 15 against the Philadelphia Company, the Pittsburgh Railways and the United Traction Company, Pittsburgh, in the District Court of the United States in the Western District of Pennsylvania. In the bill of complaint it was charged among other things that the responsibility for the principal and interest on underlying bonds of the companies which go to make up the Pittsburgh Railways system was with the Philadelphia Company, and the court was asked to "recognize and enforce the liability which the Philadelphia Company, by its recent defaults, has sought to avoid." The court was also asked to appoint a receiver for Pittsburgh Railways and to require an accounting by the Philadelphia Company of the management of the railway company and subsidiary and affiliated companies.

NO CAUSE FOR ACTION CLAIMED

Dismissal of the actions is asked by the defendants to both suits, on the grounds that the bills do not make out any cause of action against the defendants and that cause of action, if any, is vested in the Maryland Trust Company, trustee under the deed securing the general mortgage 5 per cent bonds of the United Traction Company.

In its reply to the Allen suit, the Philadelphia Company demands proof of the allegation in the complaint that a syndicate "caused \$17,000,000 par value of common stock to be issued and delivered to it without paying the United (United Traction Company) any real or cash value therefor."

The defendant company avers it purchased the stock referred to "in good faith and without knowledge of any alleged invalidity of said stock so issued or any part thereof."

The answer of the Pittsburgh Railways and the United Traction Company to the same suit, says:

"The defendants deny that \$3,000,000 par value of preferred stock was sold and the proceeds thereof together with the proceeds of the aforesaid bonds used to pay the purchase price of the properties acquired by the United, and the defendants deny that the \$17,000,000 par value of common stock was issued and delivered without giving to the United or its subsidiary companies any real or cash value therefor.

"Briefly, all the common capital stock of the United Traction Company of Pittsburgh was issued in payment for the properties known as the Second Avenue Traction Company; all the preferred stock and \$800,000 in cash was given in payment for the properties known as the Northside Traction Company, including the Federal Street & Pleasant Valley Passenger Railway and approximately \$2,500,000 in cash was given in payment for the capital stock of the Pittsburgh, Allegheny & Manchester Traction Company. There was thus a total cash disbursement of approximately \$3,300,000 which was realized by selling the mortgage bonds.

"It is further denied that the \$3,000,000 par value of preferred stock of the United Traction Company was or is owned by the Philadelphia Company."

Further M. O. Negotiations

The directors of the London & Lake Erie Railway & Transportation Company, London, Ont., have decided to throw open all books to the inspection of Sir Adam Beck and the London & Port Stanley Railway Commission, and to make an offer to sell out to the city of London for \$420,000.

Some time ago the company made a move to sell to the city and asked Sir Adam Beck, who is chairman of the commissions in charge of the London & Port Stanley Railway and the Peterboro Radial Railway, both municipally operated, to name a price. Sir Adam answered that he would be prepared to recommend to the people that they pay \$286,000 for the road at which rate it would pay its way. The company wanted double that amount, however, and gave notice of intention to tear up the rails and scrap the line. The road is 28 miles long.

"Going Value" Tax Overruled

Justice Black in the New Jersey Supreme Court has handed down an opinion in which he reduces the tax assessment of the Trenton & Mercer County Traction Corporation by \$568,052. This assessment on the "going value" of the company for the year 1916 was held legal by the State Board of Taxes and Assessments. Judge Black holds that "going value" cannot properly be included in appraising taxable value of property of public utility corporations. Frank S. Katzenbach, counsel for the company, argued against the arbitrary adding of this amount to the assessment by the State board as "going value" and characterized it as double taxation. The court holds that the "going value" was already taxed by a levy upon the gross receipts of the company.

Report of Referee Ratified

Each Non-Assenting Holder of \$1,000 of R. S. & E. Bonds Has \$346 Coming to Him

The report of George H. Bond as referee in the foreclosure suit of the Columbia Trust Company, New York, N. Y., against Hendrick S. Holden and C. Loomis Allen as receivers of the Rochester, Syracuse & Eastern Railroad, Syracuse, N. Y., has been ratified by Justice Hubbs.

Mr. Bond's report shows that there were outstanding 44,897, \$1,000 first mortgage forty-year 6 per cent gold bonds, totalling \$4,897,000. The amount of principal and interest due on the mortgage on March 16, 1917, was \$5,656,368, so that \$1,115 was due on each \$1,000 bond.

The proceeds of the sale of the road were \$1,691,079. The reorganization committee composed of Arthur W. Loasby, Elbert Harvey and DeForest Settle received deposits of bonds to the amount of \$4,855,000. Owners of the bonds who participated in the reorganization received for each \$1,000 bond \$500 par value of first mortgage 5 per cent bonds, \$500 of 6 per cent cumulative preferred stock, \$100 of 6 per cent cumulative preferred stock for unpaid interest, and \$200 of common stock. By an order made by Justice Hubbs the amount of \$14,563 is to be set aside to make payments of \$346.76 on each of the forty-two bonds not participating.

Preferred Dividend in Scrip

The directors of the American Public Utilities Company, Grand Rapids, Mich., have declared the usual quarterly dividend on the preferred stock of the company, payable in scrip on April 1. The scrip will be in the form of warrants, payable on or before April 1, 1923, bearing 6 per cent interest.

The directors of the company deem it prudent, in view of the very uncertain financial condition now prevalent, and which may continue during the war, to make payment of the dividend in scrip, instead of cash, in order to conserve the resources of the company and its subsidiaries. While not authorizing any unusual construction expenditures by the subsidiary companies, at the same time the directors feel that they must provide for the constant demands upon them for added service at existing plants, and as there is no certainty that funds for these unavoidable expenditures can be obtained through the sale of securities in the usual way, they must be taken from the earnings of the companies which ordinarily are devoted to the payment of dividends.

The earnings of the company, considering war conditions, are satisfactory, and while the dividend scrip is payable five years from date, it is not anticipated that the dividend payments will be deferred for that length of time. The time is set at five years more as a precautionary measure than anything else.

Electric Railway Statistics

Comparison of Returns for Year Ended Dec. 31, 1917, with Those for 1916 Shows Electric Railways To Be Disastrously Affected by Rising Costs

A comparison of electric railway statistics for the twelve months ended Dec. 31, 1917, with figures for the corresponding period of 1916, made by the information bureau of the American Electric Railway Association, brings out rather clearly the effect rising costs of materials and supplies used by electric railways, together with increases in wages and taxes, have had upon the railway companies net.

Data for the twelve months ended Dec. 31, 1917, representing 8437 miles of line of companies scattered throughout the country, indicate an increase in operating revenues of 5.77 per cent, in operating expenses, one of 12.78 per cent, and a decrease in net earnings of 5.91 per cent. Data representing 7005 miles of line indicate an increase in the amount of taxes paid of 13.87 per cent, while operating income decreased 10.04 per cent.

The operating ratio of the United States as a whole increased from 62.51 in 1916 to 66.65 in 1917. That of the Eastern district increased even more—from 62.46 in 1916 to 67.42 in 1917.

cent, the net earnings, as pointed out above, have decreased almost 6 per cent and the operating income decreased 10 per cent. It must also be borne in mind in this connection that both of the fare figures are based upon the combined returns of both city and interurban of revenue passengers per passenger car mile increased 3.55 per cent.

The returns from the city and interurban electric railway companies, as shown in detail in the appended tables, have been classified according to the following geographical grouping: Eastern District—East of the Mississippi River and north of the Ohio River. Southern District—South of the Ohio River and east of the Mississippi River. Western District—West of the Mississippi River.

Table I shows the revenues, expenses and net earnings of approximately 100 electric railways in the United States as well as the operating income of a slightly smaller number of companies reporting taxes. Difficulty in obtaining the needed data, together with the limited time after the close of the cal-

a whole, while the operating revenues of the three groups increased at a normal rate, operating expenses and taxes have increased tremendously. The operating expenses of the Eastern group, for instance, have increased 13.74 per cent and the taxes 14.33 per cent, while operating revenues increased by 5.37 per cent and the net earnings decreased 8.54 per cent.

Table II shows the details of the operating expenses of companies represented by 7127 miles of line. An examination of this table reveals what was perhaps to be expected—that the largest increases occur in the expenditures for "power" and for "conducting transportation"—that is, for coal and for labor. Due to measures of economy apparently there is but little increase in the expenditures for "maintenance of way and structure," while on the other hand, in order, it seems, to avoid buying new cars and thus release mill and plant facilities for the use of the government a great deal of car repairing has apparently been done, thus increasing the expenditure for this account by some 13 per cent. The "general and miscellaneous" account has also increased some 10 per cent. The largest increase in the "power" account has occurred in the Eastern district—one of 30.59 per cent, while the largest in the "conducting transportation" account was in the Western district, one of 11.02 per cent.

ONLY NORMAL INCREASE IN TRAFFIC

Table III gives the traffic statistics of companies, representing 6668 miles of line. All groups indicate normal increases in the number of passengers carried. The Eastern and Western indicate, moreover, slight increases in the car mileage and car hours run. The Western district shows the greatest percentage increase in both the number of revenue and the number of transfer passengers carried; the Southern, the least percentage increase in the number of transfer passengers carried. A number of companies keep no record of free passengers, and the records of free passengers as shown on the table are, therefore, somewhat smaller than the actual figures. Though net earnings have decreased the average fare per revenue passenger has increased slightly in all districts, as has also the average fare per passenger including transfers. The largest increase in the number of revenue passengers carried per revenue car mile has occurred in the Southern district.

In Table IV there are shown the revenues, expenses and net earnings per revenue car mile and per revenue car hour, together with the per cent increase or decrease over the corresponding figures for 1916. There are also given the number of revenue car miles and car hours involved with the last three figures omitted. For the United States as a whole the net earnings both per revenue car mile and revenue car hour show decreases of more than 4½ per cent.

TABLE IV—OPERATING REVENUES AND EXPENSES OF ELECTRIC RAILWAYS PER REVENUE CAR MILE, YEAR ENDED DEC. 31, 1917

Account	United States		Eastern District		Southern District		Western District	
	Amount 1917 (in cents)	Increase over 1916 per cent.	Amount 1917 (in cents)	Increase over 1916 per cent.	Amount 1917 (in cents)	Increase over 1916 per cent.	Amount 1917 (in cents)	Increase over 1916 per cent.
Per revenue car mile:								
Operating revenues.....	30.87	4.08	32.99	3.68	24.91	6.36	28.65	14.45
Operating expenses.....	20.06	9.68	21.45	11.49	14.90	7.74	18.90	6.60
Net earnings.....	10.81	†4.93	11.54	†8.27	10.01	4.38	9.75	0.52
Revenue car miles *.....	469,904,724		272,046,596		36,464,707		161,393,421	
Av. No. miles represented....	1917, 6,668; 1916, 6,609		1917, 4,447; 1916, 4,410		1917, 603; 1916, 595		1917, 1,618; 1916, 1,604	

OPERATING REVENUES AND EXPENSES OF ELECTRIC RAILWAYS PER REVENUE CAR HOUR, YEAR ENDED DEC. 31, 1917

Account	(In dollars)		(In dollars)		(In dollars)		(In dollars)	
	1917	Increase over 1916	1917	Increase over 1916	1917	Increase over 1916	1917	Increase over 1916
Per revenue car hour:								
Operating revenues.....	2.88	3.60	3.06	2.68	2.21	6.25	2.72	4.21
Operating expenses.....	1.87	8.72	1.99	10.56	1.32	7.32	1.80	6.51
Net earnings.....	1.01	†4.72	1.07	†9.32	0.89	4.71	0.92	.....
Revenue car hours *.....	50,438,956		29,366,405		4,101,284		16,971,267	
Av. No. miles represented....	1917, 6,668; 1916, 6,609		1917, 4,447; 1916, 4,410		1917, 603; 1916, 595		1917, 1,618; 1916, 1,604	

* The last three figures are omitted. † Decrease.

The operating ratios of the Western and Southern districts have also increased though not quite as much as that of the Eastern district.

The number of revenue passengers carried by companies represented by 6688 miles of line increased 4.91 per cent, while the number of transfer passengers increased 2.67 per cent, the revenue car mileage 1.28 per cent and the revenue car hours 1.95 per cent. Though the average fare per revenue passenger increased 0.79 per cent and the average fare per passenger including transfers increased 1.25 per

cent, the net earnings, as pointed out above, have decreased almost 6 per cent and the operating income decreased 10 per cent. It must also be borne in mind in this connection that both of the fare figures are based upon the combined returns of both city and interurban of revenue passengers per passenger car mile increased 3.55 per cent.

The returns from the city and interurban electric railway companies, as shown in detail in the appended tables, have been classified according to the following geographical grouping: Eastern District—East of the Mississippi River and north of the Ohio River. Southern District—South of the Ohio River and east of the Mississippi River. Western District—West of the Mississippi River.

Table I shows the revenues, expenses and net earnings of approximately 100 electric railways in the United States as well as the operating income of a slightly smaller number of companies reporting taxes. Difficulty in obtaining the needed data, together with the limited time after the close of the cal-

endar year 1917 available for tabulation, made it impossible to include a greater number of companies in this summary. It is believed, however, that data here given is fairly representative of conditions as a whole of the three groups shown. Returns for the Southern are the most encouraging. Though the operating revenues for this group increased somewhat less than those of the Eastern and Western groups, local conditions have apparently enabled the roads in the South to keep down their expenses, so that the net earnings for this group are almost unchanged. As

TABLE I—COMPARISON OF REVENUES AND EXPENSES OF ELECTRIC RAILWAYS FOR TWELVE MONTHS, JANUARY-DECEMBER, 1917 AND 1916

Account	United States				Eastern District				Southern District				Western District			
	Amount, January-December, 1917	Per Mile of Line			Amount, January-December, 1917	Per Mile of Line			Amount, January-December, 1917	Per Mile of Line			Amount, January-December, 1917	Per Mile of Line		
		1917	1916	% Increase		1917	1916	% Increase		1917	1916	% Increase		1917	1916	% Increase
Operating revenues	\$190,045,411	\$22,525	\$21,296	5.77	\$122,578,032	\$20,979	\$19,909	5.37	\$12,958,884	\$16,342	\$15,565	4.99	\$54,508,495	\$30,249	\$28,303	6.88
Operating expenses	126,663,441	15,013	13,312	12.78	82,636,305	14,143	12,435	13.74	7,560,872	9,535	8,899	7.15	36,466,264	20,236	18,090	11.86
Net earnings	63,381,970	7,512	7,984	†5.91	39,941,727	6,836	7,474	†8.54	5,398,012	6,807	6,666	2.12	18,042,231	10,013	10,213	†1.96
Opr. ratio, per cent.	1917, 66.65; 1916, 62.51				1917, 67.42; 1916, 62.46				1917, 58.35; 1916, 57.17				1917, 66.90; 1916, 63.91			
Aver. No. miles represented	1917, 8,437; 1916, 8,364				1917, 5,843; 1916, 5,793				1917, 793; 1916, 785				1917, 1,801; 1916, 1,786			

COMPANIES REPORTING TAXES

Operating revenues	\$159,546,552	\$22,776	\$21,653	5.19	\$100,122,719	\$20,568	\$19,643	4.71	\$9,300,508	\$17,255	\$16,546	4.29	\$50,123,325	\$31,366	\$29,504	6.31
Operating expenses	105,265,068	15,027	13,378	12.33	66,311,138	13,622	12,079	12.77	5,313,141	9,857	9,097	8.35	33,640,789	21,052	18,783	12.08
Net earnings	54,281,484	7,749	8,275	6.26	33,811,581	6,946	7,564	8.17	3,987,367	7,398	7,449	0.68	16,482,536	10,314	10,721	3.80
Taxes	10,175,689	1,453	1,276	13.87	5,904,587	1,213	1,061	14.33	776,558	1,441	1,321	9.08	3,494,544	2,187	1,915	14.20
Operating income	44,105,795	6,296	6,999	†10.04	27,906,994	5,733	6,503	†11.84	3,210,809	5,957	6,128	†2.79	12,987,992	8,127	8,806	†7.71
Opr. ratio, per cent.	1917, 65.98; 1916, 61.78				1917, 66.23; 1916, 61.49				1917, 57.13; 1916, 54.98				1917, 67.12; 1916, 63.66			
Aver. No. miles represented	1917, 7,005; 1916, 6,939				1917, 4,868; 1916, 4,824				1917, 539; 1916, 533				1917, 1,598; 1916, 1,582			

† Decrease.

TABLE II—DETAILS OF OPERATING EXPENSES OF ELECTRIC RAILWAYS FOR THE YEAR ENDED DEC. 31, 1917

Account	United States				Eastern District				Southern District				Western District			
	Amount, January-December, 1917	Per Mile of Line			Amount, January-December, 1917	Per Mile of Line			Amount, January-December, 1917	Per Mile of Line			Amount, January-December, 1917	Per Mile of Line		
		1917	1916	% Increase		1917	1916	% Increase		1917	1916	% Increase		1917	1916	% Increase
Operating expenses	\$101,484,369	\$14,239	\$12,794	11.29	\$63,413,346	\$13,344	\$11,794	13.14	\$7,560,872	\$9,535	\$8,899	7.15	\$30,510,15	\$19,286	\$17,734	8.75
Way and structures	10,975,589	1,540	1,517	1.52	6,902,025	1,452	1,405	3.35	869,005	1,096	1,067	2.72	3,204,559	2,026	2,079	2.55
Equipment	9,656,177	1,355	1,191	13.77	5,517,656	1,161	1,005	15.52	780,968	985	958	2.82	3,357,553	2,122	1,863	13.90
Total maintenance and renewal*	26,665,973	3,742	3,503	6.82	16,878,720	3,552	3,280	8.29	1,649,973	2,081	2,025	2.77	8,137,280	5,144	4,908	4.81
Power	17,017,376	2,388	1,921	24.31	11,464,145	2,412	1,847	30.59	1,091,279	1,376	1,120	22.86	4,461,952	2,820	2,540	11.02
Conducting transportation	42,731,134	5,995	5,440	10.20	25,980,476	5,467	4,973	9.93	3,621,633	4,576	4,227	8.04	13,129,025	8,299	7,449	11.41
Traffic	324,227	45	55	†18.18	110,702	23	40	†42.50	45,258	57	61	†6.56	168,267	106	96	10.42
General and miscellaneous	14,796,610	2,076	1,882	10.31	8,980,554	1,890	1,654	14.27	1,152,729	1,454	1,466	†0.82	4,663,327	2,948	2,774	6.27
Transportation for investment—Cr.	†50,951	†7	†7	.....	†1,251	.....	.....	.....	.....	.....	.....	.....	†49,700	†31	†33	.....
Aver. No. miles represented	1917, 7,127; 1916, 7,057				1917, 4,752; 1916, 4,702				1917, 793; 1916, 786				1917, 1,582; 1916, 1,569			

* Contains an amount not apportioned between "Maintenance of Way and Structures" and "Maintenance of Equipment." † Decrease.

TABLE III—TRAFFIC STATISTICS OF ELECTRIC RAILWAYS FOR THE YEAR ENDED DEC. 31, 1917

Account	United States				Eastern District				Southern District				Western District			
	Amount January-December, 1917 (in thousands)	Per Mile of Line			Amount January-December, 1917 (in thousands)	Per Mile of Line			Amount January-December, 1917 (in thousands)	Per Mile of Line			Amount January-December, 1917 (in thousands)	Per Mile of Line		
		1917	1916	% Increase		1917	1916	% Increase		1917	1916	% Increase		1917	1916	% Increase
Passenger revenue	\$138,466	\$20,766	\$19,667	5.59	\$84,505	\$19,003	\$18,061	5.22	\$8,836	\$14,654	\$13,975	4.86	\$45,125	\$27,889	\$26,193	6.48
Revenue car miles—total	469,905	70,472	69,579	1.28	272,047	61,175	60,426	1.24	36,465	60,472	61,529	†1.72	161,393	99,749	97,729	2.07
Passenger car miles	464,319	69,634	68,743	1.30	267,542	60,162	59,430	1.23	36,154	59,957	60,902	†1.55	160,623	99,273	97,260	2.07
Other revenue car miles	5,586	838	836	0.24	4,505	1,013	996	1.71	311	515	627	†17.86	770	476	469	1.49
Revenue car hours—total	50,439	7,564	7,419	1.95	29,366	6,604	6,458	2.26	4,101	6,801	6,905	†1.51	16,971	10,489	10,253	2.30
Passenger car hours	49,732	7,458	7,311	2.01	28,788	6,474	6,327	2.32	4,056	6,727	6,815	†1.29	16,887	10,437	10,200	2.32
Other revenue car hours	707	106	108	†1.85	578	130	131	†0.76	45	74	90	†17.78	84	52	53	†1.89
Passengers—total	3,448,065	517,106	495,231	4.42	2,049,501	460,873	442,634	4.12	213,37	353,855	340,538	3.91	1,185,190	732,503	697,222	5.06
Revenue passengers	2,706,276	405,860	386,875	4.91	1,663,949	374,173	358,277	4.44	174,544	289,462	276,531	4.68	867,782	536,330	506,433	5.90
Transfer passengers	706,990	106,027	103,270	2.67	364,183	81,894	79,795	2.63	34,546	57,289	55,950	2.39	308,262	190,520	185,365	2.78
Free passengers	34,799	5,219	5,086	2.62	21,369	4,806	4,562	5.35	4,283	7,104	8,057	†11.83	9,146	5,653	5,424	4.22
Average fare per passenger	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Per revenue passenger	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Per passenger (including transfers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average number of revenue passengers per passenger car mile	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Aver. No. miles represented	1917, 6,668; 1916, 6,609				1917, 4,447; 1916, 4,410				1917, 603; 1916, 595				1917, 1,618; 1916, 1,046			

† Decrease. * Cents.

Financial News Notes

Foreclosure Sale on March 30.—The property of the Northern Cambria Street Railway, Patten, Pa., which operates an electric railway 15 miles in length, will be sold on March 30 by the trustee, the Cambria Title Savings & Trust Company, Ebensburg, Pa.

Northern States Issues Additional Bonds.—A syndicate composed of Harris Trust & Savings Bank, Chicago; H. M. Byllesby & Company, Chicago; Guaranty Trust Company, New York, and Bonbright & Company, New York, is offering \$1,000,000 Northern States Power Company first and refunding mortgage 5 per cent bonds, due on April 1, 1941.

Foreclosed Road Transferred.—The Orleans-Kenner Electric Railway has been transferred to the Orleans-Kenner Traction Company, Inc., New Orleans, La., as a result of the recent receivers' sale, when J. Blanc Moore bought the property for the reorganized company. The line is about 16 miles long, from New Orleans to Kenner, La., this including 4 miles operated under a trackage agreement.

San Diego Sale Authorized.—The California Railroad Commission has made final its authority granted last November to the San Diego & South Eastern Railway to sell its physical assets and properties to the San Diego & Arizona Railway, San Diego, Cal., the consideration of \$1,500,000 to stand on the books of the purchasing corporation as an indebtedness due to the selling company, with interest at 6 per cent, until such time as bonds authorized to be issued in payment have been delivered.

Receivership Application Denied.—Application for appointment of a receiver for the Trenton, Lakewood & Seacoast Railway, Trenton, N. J., has been denied by Vice-Chancellor Foster. The application was made by Frank Tilford, New York, who claimed that the company had no income and that conservation of interests of bond and stockholders demanded the naming of a receiver. The company was formed to build a line from Trenton to Point Pleasant, a distance of about 40 miles. No construction work was ever done.

Ohio Commission Authorizes Abandonment.—One division of the Interurban Railway & Terminal Company, Cincinnati, Ohio, will be abandoned under an order of the Public Utilities Commission issued on March 20. The portion abandoned lies between Coney Island, Hamilton County, and Bethel. It is known as the Bethel division. Its receipts last year were \$7,000 less than the operating expenses. This division is paralleled between Amelia and Bethel by the Cincinnati, Georgetown & Portsmouth Railroad. For the remaining 6 miles the roads are from 2 to 3 miles apart, but the commission found that fair service can be given by the other road, even in this district.

Cincinnati-Dayton Line Reorganized.—The Ohio Public Utilities Commission on March 20 issued an order approving the reorganization of the Cincinnati, Dayton & Toledo Traction Company under the name of the Cincinnati & Dayton Traction Company. The new company will have a capital stock, all common, of \$1,250,000 and is authorized to issue \$4,750,000 of bonds. The capital liabilities of the old company amounted to \$7,250,000. J. M. Hutton and company and Claude Ashbrook, brokers, Cincinnati, with other interests, took a leading part in the reorganization which was effected in behalf of a bondholders' committee. Attorney Judson Harmon, former Governor, conducted the legal proceedings. The Cincinnati, Dayton & Toledo Trac-

tion Company is operated as a part of the Ohio Electric Railway. The line extends from Cincinnati to Dayton.

Option Secured on Abandoned Road.—Announcement has been made by George H. Taylor, personal representative of Frank J. Gould, president of the Richmond & Chesapeake Bay Railway, Richmond, Va., that a thirty-day option to buy the road has been granted to T. Garnett Tabb, president of the Hermitage Country Club, Inc., who voiced his intention of purchasing the property with a view of restoring the service between Richmond and Ashland at the earliest possible date. Mr. Taylor said: "It was never the intention of Mr. Gould to scrap this property, and how such a report could have started is beyond me. We are all interested in seeing service restored on the Richmond & Chesapeake Bay Railway, and before we granted the option to Mr. Tabb he expressed his purpose of intending to buy with a view of operating."

I. T. S. Passes Common Dividend.—The Illinois Traction Company, Peoria, Ill., has announced that the quarterly dividend of three-quarters of 1 per cent on the common stock, starting with that due on May 15, will be passed owing to abnormal conditions due to the war. The regular quarterly dividend of 1½ per cent on the preferred stock has been declared and will be paid on April 1. The company has \$12,330,800 of common stock and \$7,289,500 of preferred stock outstanding. In an official statement the company says that the cost of coal, labor and every material entering into the production of electric, gas and all utility service has mounted to such a degree during the past year that it applied to the Illinois Public Service Commission for an emergency increase in city utility rates partly to counteract the effect of war prices. The hearings in this case have been reviewed in the ELECTRIC RAILWAY JOURNAL. The case has been closed and is before the commission for decision.

Electric Railway Monthly Earnings

BATON ROUGE (LA.) ELECTRIC COMPANY						GALVESTON-HOUSTON ELECTRIC COMPANY, GALVESTON, TEX.											
Period	Operating Revenue	Operating Expenses	Operating Income	Fixed Charges	Net Income	1m., Jan., '18	1m., Jan., '17	12m., Jan., '18	12m., Jan., '17	1m., Jan., '18	1m., Jan., '17	12m., Jan., '18	12m., Jan., '17				
1m., Jan., '18	\$21,529	*\$11,117	\$10,412	\$3,695	\$6,717	\$194,182	*\$132,913	\$61,269	\$39,282	\$197,955	*\$127,350	\$70,605	\$40,605				
1m., Jan., '17	20,445	*9,977	10,468	3,565	6,903	163,075	*113,216	49,859	36,910	149,815	*97,916	51,899	36,558				
12m., Jan., '18	233,048	*120,553	112,495	42,366	69,629	2,119,228	*1,404,568	714,660	453,252	1,786,011	*1,210,690	575,321	421,333				
12m., Jan., '17	214,312	*101,634	112,678	42,070	70,608	1,951,476	*1,243,222	708,254	439,312	1,818,551	*1,022,712	595,839	436,647				
CLEVELAND, PAINESVILLE & EASTERN RAILROAD, CLEVELAND, OHIO						HOUGHTON COUNTY TRACTION COMPANY, HOUGHTON, MICH.											
1m., Dec., '17	\$42,943	*\$29,133	\$13,810	\$11,564	\$2,245	1m., Jan., '18	\$29,422	*\$20,554	\$8,868	\$5,075	1m., Jan., '17	28,753	*\$18,683	10,070	\$5,225		
1m., Dec., '16	40,499	*22,481	18,018	11,723	6,295	12m., Jan., '18	343,802	*218,322	125,480	61,150	12m., Jan., '17	330,515	*188,101	142,214	63,618		
12m., Dec., '17	539,107	*339,045	200,062	140,038	60,024	12m., Jan., '17	3,305,515	*2,188,101	1,115,414	643,330	12m., Jan., '16	3,167,571	*\$2,022,712	1,142,861	725,596		
12m., Dec., '16	466,604	*263,168	203,436	137,414	66,022	LAKE SHORE ELECTRIC RAILWAY, CLEVELAND, OHIO											
COLUMBUS (GA.) ELECTRIC COMPANY						1m., Dec., '17	\$167,571	*\$107,350	\$60,221	\$39,336	\$20,885	1m., Dec., '16	149,815	*\$97,916	51,899	36,558	
1m., Jan., '18	\$108,978	*\$41,606	\$67,372	\$31,893	\$35,479	12m., Dec., '17	1,786,011	*\$1,210,690	575,321	421,333	153,988	12m., Dec., '16	1,818,551	*\$1,022,712	595,839	436,647	
1m., Jan., '17	89,607	*\$33,181	56,426	28,520	27,906	NEW YORK (N. Y.) RAILWAYS											
12m., Jan., '18	1,115,436	*\$428,885	686,551	362,475	324,076	1m., Dec., '17	\$918,775	*\$762,955	\$155,820	\$282,419	†\$66,918	1m., Dec., '16	946,071	*\$799,387	146,684	279,411	
12m., Jan., '17	899,013	*\$353,668	545,345	343,407	201,938	6m., Dec., '17	6,306,105	*\$4,699,063	1,608,042	1,691,167	†225,567	6m., Dec., '16	5,393,560	*\$4,185,894	1,207,666	1,690,097	
EL PASO (TEX.) ELECTRIC COMPANY						12m., Dec., '16	5,393,560	*\$4,185,894	1,207,666	1,690,097	†144,505	PUGET SOUND TRACTION, LIGHT & POWER COMPANY, SEATTLE, WASH.					
1m., Jan., '18	\$114,360	*\$74,781	\$39,579	\$6,513	\$33,066	1m., aJn., '18	\$960,089	*\$588,004	\$372,085	\$204,491	\$167,594	1m., Jan., '17	787,869	*\$471,237	316,632	191,925	
1m., Jan., '17	116,343	*\$65,144	51,199	5,245	45,954	12m., Jan., '18	9,627,081	*\$5,970,786	3,656,295	2,363,754	1,292,541	12m., Jan., '17	8,225,647	*\$5,160,961	3,064,686	2,222,257	
12m., Jan., '18	1,281,542	*\$811,408	470,134	68,276	401,858	FEDERAL LIGHT & TRACTION COMPANY, NEW YORK, N. Y.											
12m., Jan., '17	1,121,778	*\$675,140	446,638	59,700	386,938	1m., Jan., '18	\$310,344	*\$212,003	\$98,341	\$50,184	\$48,157	1m., Jan., '17	243,878	*\$150,265	93,613	49,727	
12m., Jan., '18	2,933,776	*\$2,072,203	861,573	594,912	266,661	12m., Jan., '18	2,933,776	*\$2,072,203	861,573	594,912	266,661	12m., Jan., '17	2,520,477	*\$1,636,654	883,823	587,017	
12m., Jan., '17	2,520,477	*\$1,636,654	883,823	587,017	296,806	Includes taxes. †Deficit. ‡Includes non-operating income.											

*Includes taxes. †Deficit. ‡Includes non-operating income.

Traffic and Transportation

"Pup" Talks at Durham

Problems of Utility Frankly Set Forth in Series of Advertisements Addressed to Public

A novel and effective series of newspaper advertisements has recently been concluded by the Durham (N. C.) Traction Company in connection with its request to the city for a 6-cent fare and relief from certain franchise provisions which the company regards as unduly burdensome. The publicity program was in charge of J. Frank Johnson.

The Durham advertisements were run in fifteen consecutive issues of both the afternoon and morning newspapers, and were popularly known as the "Pup" series because each was headed by a picture of an agonized canine seated on a tub with forepaws in a begging attitude, while a huge chain bound him firmly to a large stake. The readers' wonderment as to this symbolism was permitted to continue for six advertisements, and the public learned that "Pup" meant "Public Utility Problems," and it was apparent the dog represented the Durham Traction Company, piteously begging for relief from the bonds of obsolete city regulations.

All the advertisements were instructive, frankly setting forth the company's difficulties in an abnormal period while operating and construction costs were often trebled and quadrupled. One of the best appeals was advertisement No. 4, published on Feb. 13. It is reproduced in full as follows:

"SO THAT PEOPLE MAY KNOW

"One of the principal benefits that a community derives from any company or industry which does business in it, is the amount of money which that company spends in the community.

"We are not in position to state definitely just how our figures of total expenditures, and expenditures within the city of Durham, compare with those of other industries.

"We want, however, to give our figures of expenditures in 1917.

"For the 312 business days during the year the Durham Traction Company spent an average of \$1,794 a day during the year of 1917.

"Of this \$1,794 a day, \$917 was spent in the city of Durham, of which \$260 was spent daily for material and miscellaneous expenses.

"These figures are not superficial or padded, but are taken directly from our check register.

"Furthermore, they must vary directly with the conditions of the company.

"Our prosperity, due to fare earnings, will increase both these items.

"If we are forced to seek economies

we cannot be progressive and these items must be decreased.

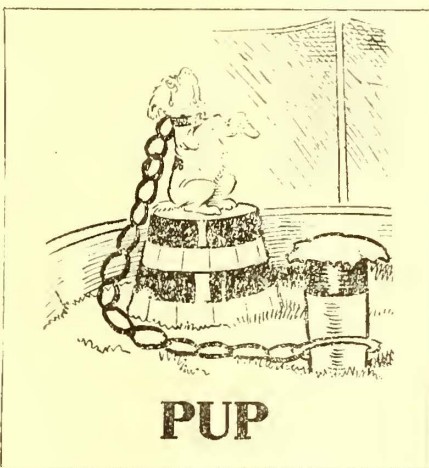
"Which is better for you?

"Which is better for Durham?

"Efficient Utility service can be furnished to the public only by a successful company.

"Companies that barely earn enough to meet their expenses are constantly forced to seek economies, and service must suffer in consequence.

"History teaches that a city is best served by a utility that is prosperous;



THE DURHAM APPEAL

one that can expend; one that can make extensions; one that can, because of available funds, give service in every sense of the word; one that can employ men of sterling quality.

"Isn't it true that successful cities and successful utilities go hand in hand.

"A bankrupt or poorly paying public utility is one of the worst advertisements a city can have.

"Write us that criticism about which you have been thinking."

Cleveland Fare Request In

President Stanley Wants Highest Rate Under Tayler Grant Put Into Effect

In a letter to Fielder Sanders, City Street Railway Commissioner, dated March 21, John J. Stanley, president of the Cleveland (Ohio) Railway, asked that the City Council assent to an increase in the rate of fare to the highest figure named in the Tayler grant, which is 4 cents cash and seven tickets for a quarter, with 1 cent for a transfer and no rebate. This is known as rate A in the franchise. If the increase is granted, rate B, which differs from rate A only in providing a rebate of the transfer charge, would be skipped entirely.

Mr. Stanley's letter stated that the receipts for February were \$49,413 less than the cost of operation and that the interest fund, which should normally be somewhere between \$300,000 and \$500,000, is now only \$120,846. Council will consider this matter, but under the franchise the rate could be raised automatically one step at a time until it reaches A, because the interest fund is below the prescribed \$300,000. A question that is interesting most people is whether even this rate will be sufficient to restore the fund and keep the service at its present efficiency.

To complicate matters the motormen and conductors are talking of a large increase in wages when their contract expires on May 1.

Confer on Freight

Governor at Meeting in Ohio at Which Handling of Freight on Electric Railways Is Considered

A meeting of representatives of Ohio interurban railways was held in Columbus on March 21 for the purpose of discussing ways and means of handling more freight in less than carload lots and in short hauls in order to relieve the steam roads of a portion of the burden that has been placed upon them. Governor James M. Cox attended the meeting and made a brief address covering the possibilities of the electric lines in giving needed relief.

The greatest difficulty these roads will have in meeting the wishes of the government, according to some of the representatives present, is the lack of proper freight equipment and terminal facilities. It was also suggested that the carrying capacity would have to be greatly increased and that this would be almost impossible without government aid.

It was decided, however, to make a survey of the amount of freight handled last year by Ohio roads, the possible amount that can be handled this year, the requirements in the way of additional equipment needed to utilize all present available power and methods for physical connection with the steam roads. These data will be referred to Secretary McAdoo. The committee appointed to make the survey consists of the following:

F. W. Coen, president of the Central Electric Railway Association and vice-president and general manager of the Lake Shore Electric Railway, Cleveland; F. D. Carpenter, president the Western Ohio Railway, Lima; H. G. Gilpin, general manager the Ohio Electric Railway, Springfield; and E. F. Schneider, general manager the Cleveland, Southwestern & Columbus, Cleveland.

In Ohio there are 2607 miles of main line and 87 miles of branch and spur tracks. The meeting was held with J. B. Dugan, chief inspector of the Public Utilities Commission, who has given this matter much thought and attention.

Review of Six New York Fare Cases

A Summary Is Presented of the Testimony in Connection With Rate Applications Heard Recently by Up-State Commission

The Public Service Commission for the Second District of New York has held hearings recently on a number of applications by electric railways for increased fares. As a matter of convenience to its readers, the *ELECTRIC RAILWAY JOURNAL* has decided to summarize the results of the hearings under one head, but to keep the review of the proceedings in each case separate from the others.

SERVICE FIRST—FARES NEXT

The application of the Poughkeepsie & Wappingers Falls Railway for a 6-cent fare was heard on March 21. The railroad presented detailed figures to the commission in support of its application. Counsel for the city said that in the commission found from the evidence that it was necessary to increase the fare the city did not intend to object. The city claimed, however, that it had not received proper service and treatment from the railroad. If an increase was granted the city wanted proper service.

H. C. Hopson, for the company, said the application of the railroad was for a 6-cent fare in Poughkeepsie and a finding by the commission that it was entitled to a similar increase on the balance of its system. He said there were no franchise questions involved in the application. The railroad runs between Poughkeepsie and Wappingers Falls, operating over the Central New England Railway to the Poughkeepsie State Hospital.

H. R. Guernsey, representing Vassar College, read an agreement between the City Railroad, Poughkeepsie, and Vassar College covering the fare for passengers to that school. The agreement was dated June 17, 1893, when the motive power was changed to electricity. It provided for a 5-cent fare.

"Then if the city gets good service, it is willing to pay for it," asked Chairman Hill of the Public Service Commission after Corporation Counsel Worral had made his statement in behalf of the city.

"Yes, sir," replied Alderman D'Arcy. "All we ask is good, fair service."

"There is nothing fairer than that," replied Chairman Hill.

THE CASE FOR THE COMPANY

The railway put in its evidence through Charles A. Brooks, local manager; J. A. Nilan, auditor; Joseph K. Choate, vice-president, and Charles A. Greenidge, chief engineer for J. G. White & Company, New York, operating managers of the railroad; and John M. Daly, New York, an expert accountant. It was shown that the company's net loss for 1917 was \$5,970 and that it had paid no dividends.

The evidence of Mr. Brooks was to the effect that the service, as far as operation was concerned, was good, but

that the roadbed and equipment of the company were not in good shape. He said that if the company was permitted to increase its rates there would be 1-cent increase in the fare zones outside of Poughkeepsie. Mr. Brooks also testified to increases in the cost of materials and wages paid conductors and motormen. The greater part of the evidence consisted of detailed statements of operating expenses, costs, etc., which were made a part of the record without objection.

There was no evidence given on the part of the city and the case was ordered closed by the commission.

COMMISSION ACTION ON OTHER APPLICATIONS

The rate applications of the Peekskill Lighting Company, and the Putnam & Westchester Traction Company, under a petition for a rehearing by the city of Peekskill, came up before the commission, on March 21. The city did not care to submit any evidence and the hearings were closed.

On March 21 the commission ordered closed the complaints against the Buffalo, Lockport & Rochester Railway protesting proposed increase in commutation passenger fares, the operation of which was ordered suspended by the commission, pending a hearing. The increase objected to was from 1 to 1½ cents a mile for commutation ticket books. The company filed a petition to withdraw the tariff, and this action was satisfactory to the complainants who consented to the withdrawal. The company, on not less than one day's notice to the public and under an effective date not later than April 15, is permitted to file a new tariff.

On March 19 the commission heard the application of the Fonda, Johnstown & Gloversville Railroad for permission to increase the fare charged passengers riding within the limits of a city or incorporated village, to 6 cents and a proportionate increase in rates for other transportation. City Attorney Wesley H. Maider of Gloversville, asked for a dismissal of the petition on the ground that there were certain franchise agreements. This was denied. Mr. Maider also asked for a postponement of the hearing until an adjudication by the Court of Appeals in the Rochester case. Chairman Hill said there would be no decision in rate cases until the Court of Appeals had rendered its decision. He said an early decision was expected. He said it was best to go ahead and permit the petitioner to put in its case. He thought that this course would be an advantage to those in opposition to the company's petition. The railroad then began the introduction of documentary evidence. This dealt largely with cost of operation and other statistics in support of the petition for an increased rate.

Another case heard recently by the commission was that of the Westchester Street Railway for permission to increase its rates.

Lucius S. Storrs, vice-president of the road, asserted that the company was unable to borrow in the open market because of the poor credit of the company and its poor earning condition. Unless the company was granted permission to increase its rates the company would have to stop operation or allow some one else to run the road. Mr. Storrs said that the petition for increased rates was to pay operating expenses and interest on bonds.

E. F. McKinley, who conducted the hearing for the company, said that the railway had never paid a dividend. In fact it had been a liability from the start. The deficit from 1910 to December 31, 1916, was \$111,000. For 1917 the deficit was about \$106,000. J. K. Funderford, general manager, and T. J. McGreevey, assistant auditor, also testified for the company.

The New York & Stamford Railway's application for permission to increase its fare to 6 cents was heard by the commission on March 15. Briefs will be filed later.

Philadelphia Service Order

Public Service Commission Directs Philadelphia Rapid Transit Company to Make Alterations

The Public Service Commission of Pennsylvania on March 25 ordered the Philadelphia Rapid Transit Company to make important improvements, alterations, additions and extension to its service and facilities. The order was made as a result of the hearings growing out of the complaints of the city of Philadelphia. William H. Robinson, Fox Chase Improvement Association, North Philadelphia Business Men's Association, Inc., and the United Business Men's Association of Philadelphia.

The commission orders the company to purchase on or before Dec. 1, 1919, 100 new cars of the larger type. Following the cessation of the war the company is directed to purchase new cars annually. On or before June 1, additional facilities for West Philadelphia must be provided, including new lines and double-tracking of several streets, additional cars on the Sixtieth Street line, a new line on Fifty-sixth Street, and resetting the Kensington tracks.

The company is directed to instruct its employees no longer to run past passengers, and it is suggested to the City Councils that an ordinance be passed to prevent the blocking of cars by vehicles unloading between the curb and the track.

The company made a statement in part as follows:

"The company will at once take steps to carry out the letter and spirit of the orders and recommendations therein contained. The company is gratified that the complaints against the serv-

ice, to quote from the commission, 're-late almost entirely to the past few months,' during which period the commission states that it recognized 'to the full the difficulties under which all transportation companies of every kind are and have been laboring.'

"Government demands are bringing to the city a largely increased population which must be cared for. The same conditions which call for increased service have necessarily put a stop to the completion of the city's system of high-speed lines which was designed to meet the very material growth in industrial enterprise which Philadelphia is now experiencing.

COMPANY MUST HAVE CO-OPERATION

"The task thus presented to the company can be successfully met only if it secures the co-operation of the public, which the commission points out is so much to be desired and the further assistance of the administration in giving the company a clear track which the commission earnestly recommends to the Mayor and Councils. In this connection it is only fair to say that much of the improvement in service experienced during the past month has been due to the increased co-operation of the city's traffic squad in preventing unnecessary delays and dragging of cars by other conveyances and so enabling the company to maintain its schedules."

Service Order Issued

New York Commission Orders Changes in Service of Line Between Buffalo and Rochester

The Public Service Commission of the Second District of New York has passed upon the complaints of citizens of Brockport, Spencerport and vicinity against the Buffalo, Lockport & Rochester Railway. The order of the commission directs the railway:

1. To clean the inside of its cars thoroughly at least once each day and to sweep out its cars at the end of each trip.
2. To keep its tracks in a safe condition and to repair its road between Rochester and Brockport.
3. To prevent passengers from riding in the front vestibule of any car or in the compartment occupied by the motorman.
4. To run eastbound trains 4, 10 and 12 double each day of the week except Sunday between Brockport and Rochester, and westbound trains 25 and 29 double each day of the week except upon Saturday, between Rochester and Brockport.
5. To run trains Nos. 15, 17 and 19 double on Saturdays between Rochester and Brockport.
6. To substitute service equivalent to that hereinbefore directed to be furnished provided the character of such service shall be first approved by this commission.

State Controlled Utilities Trust Suggested

Federal Trustee of Rhode Island Company Suggests One Big Corporation to Run All the Public Service Businesses in the State

At the meeting of the legislative committee which is considering the Rhode Island Company situation, John O. Ames, one of the five federal trustees in charge of the property under the New Haven Railroad dissolution decree, declared it to be his personal opinion that the solution of the public service corporation problem lay in the formation of what might be called a State-controlled "public service trust." Mr. Ames said:

"It is my opinion that the public service question could best be settled by the formation of one big corporation to run all of the public service businesses, such as electric railways, gas and electric companies. This corporation should be a private concern, but all of its functions should be absolutely controlled by the State through a special commission of the best men obtainable. The capitalization, financing, and operation of the properties should be controlled by the State and the return permissible should be fixed."

John P. Farnsworth and Charles C. Mumford, other Federal trustees, subscribed to that proposal. Rathbone Gardner, another trustee, declared that he was an advocate of State ownership. Mr. Green, the fifth trustee, was not present.

Representative Jennings of the committee stated that the controversy appeared to have settled down to a question of whether the State should allow the company to establish the modified zone system recommended by the special commission, or establish a flat 6-cent fare, which the special commission declared unjust and not desirable.

Duff F. Sherman, former vice-president of the Rhode Island Company, stated that the capital stock of the Rhode Island Company was \$9,685,500, all outstanding, and that to his knowledge all of the stock had been sold for cash.

NEW HAVEN COMPANY MILKED

John P. Farnsworth, discussing a question of "watered stock," said:

"The only graft was when the New Haven Railroad paid about \$19,000,000 for the Rhode Island Company, at a time when it was worth very much less. This was milk taken from the New Haven Railroad, but it was not water added to the Rhode Island Company."

Mr. Ames presented figures to show that for 1918 the estimated deficit of the company would be between \$700,000 and \$750,000. At a previous meeting C. A. Babcock, the comptroller, had said that it would probably run more than \$1,000,000. Mr. Ames said that Mr. Babcock based his figure on the deficit for January of this year, which was \$90,000. The deficit in the summer months would probably be less than the deficit in January, and for that reason Mr. Ames believed \$750,000 was a proper estimate.

Mr. Sherman, who promoted and constructed the Providence & Danielson Railway and sold it to the Rhode Island Company, stated that \$30,000 a year should be credited to that line for business done on the city lines directly caused by the existence of the Danielson line. If this were done there would be a profit of \$17,000 for 1917, instead of a deficit. This statement is contrary to the report of the engineering experts to the report of the special commission.

REPORT MUST BE IN BY APRIL 3

The General Assembly extended from March 26 to April 3 the time within which the legislative committee is directed to report a plan for aiding the electric railways, if such aid is found just.

The hearings that are now being held followed the action of the Legislature in preventing the Public Utilities Commission from carrying into effect the new fare rates established as just and equitable for the company by a special commission created a year ago for that particular purpose. That commission ordered the adoption of a system with 5-cent central areas and recommended taxation and franchise reforms.

A. L. Drum and H. H. Easterly Named

Organization Effected to Solve Transportation Difficulties Connected With Housing Problems

A. L. Drum, of A. L. Drum & Company, consulting and construction engineers, Chicago, Ill., has been retained by the Shipping Board, with H. H. Easterly, of the same company, as assistant, to solve some of the transportation difficulties of the housing problems in connection with the building of ships by the government.

Mr. Easterly has arrived in Washington to take up this work, and it was expected that Mr. Drum would reach Washington on April 1. Mr. Drum and Mr. Easterly will report to J. Rogers Flannery, director of housing for the Shipping Board, and work has already begun on solving some of the housing problems in connection with transportation on the Atlantic Coast. The scope of the work will be broadened later on, when the studies now being made are farther advanced, and when questions concerning appropriations are settled. At the office of Mr. Drum in Washington, it is stated that he has been "appointed to make investigations in regard to transportation by steam, electric railway and boat service."

The first investigations under way have been in the Hog Island and Newark Bay districts.

Compromise Likely

Public Service Commission and Brooklyn Rapid Transit Company May Agree on Schedule Order.

The basis of an agreement with reference to the acceptance by the Brooklyn Rapid Transit Company of the order requiring the posting of the schedules for all surface lines in Brooklyn, was reached between representatives of the company and the Public Service Commission at a conference on March 15 in the office of Public Service Commissioner F. J. H. Kracke.

The conference was requested by the railroad on March 6. The various phases of the order were thoroughly discussed. J. J. Dempsey, vice-president, speaking for the Brooklyn companies, assured the commission of his readiness to comply with any order which would serve to facilitate surface car operation. He asked further discussion on certain details of operation.

The suggestion upon which the agreement probably will be worked out was made by the commission. It intimated that the company could absorb the order gradually, applying it on certain specified lines first and then extending it to the entire system.

The order calls for the filing with the commission of definite schedules for the operation of each one of the seventy-five surface lines in Brooklyn. The company representatives declared several seasonal schedules were in use, and pointed out that a single schedule could not well cover the flexible operation necessary for vacation and holiday traffic.

The order of the commission was referred to in the *ELECTRIC RAILWAY JOURNAL* for March 9, page 481, and the protest of the company in the issue of March 16, page 543.

Helping the Seattle Shipyards

Increased transportation facilities for the shipbuilding and industrial districts at Seattle, Wash., have been assured through the efforts of the King County Council of Defense at Seattle. On petition of the Council, the United States Shipping Board has approved the plan for operation of steam trains along the waterfront and to the end of the East Marginal way trackage at the south city limits, and the director of railroads has been authorized to establish such a service. Steam service will be employed during hours when shipyard employees need it and, in addition, a new ferry service will be established. The Puget Sound Traction, Light & Power Company has adopted certain recommendations of the Council of Defense, and has made improvements to the service. It is stated that the electric railway service to this district is now as satisfactory as it can be made without the construction of extensions.

Six-Cent Fare Sought in Charleston

Six-cent fares are desired by the Charleston Consolidated Railway & Lighting Company, Charleston, S. C., and a petition for the increase has

been filed with the City Council. In addition to this the company has asked the City Council for an increase in the price of gas from \$1 to \$1.10 per 1000 cu. ft.

It was not the intention of the company to ask for an increase in fare at this time, but recently the trainmen made it plain that they could not work further for the company unless their wages were increased. The company took the position that it was conducting the railway business at a loss and could not afford to pay the men a higher scale. It was, therefore, decided to petition Council for permission to charge a 6-cent fare. This, the company figures, will actually yield about a 12½ per cent increase in gross income from the railway.

Transportation News Notes

Beeler Report on Staggered Hours Finished.—John A. Beeler has completed the section of his Washington report relating to staggered hours of business and copies have been submitted to the Senate and House Committees. It is expected that the report will be made public some time during the week commencing April 2.

Quebec Would Increase Fares.—The Quebec Railway, Light & Power Company, Quebec, Que., has applied to the City Council for permission to increase its railway fares. The company wishes to sell tickets as follows: Extra tickets for workers, five tickets for 25 cents, ten tickets for 25 cents for school children only, 1 cent for each transfer, children not in arms to pay. The company will also sell twenty-one tickets for \$1.

Ohio Road Asks for Higher Fares.—On March 20 Attorney J. W. Heintzman filed with the Public Utilities Commission of Ohio an application asking for an increase in the rates of fare for the Toledo, Bowling Green & Southern Traction Company, Findlay, Ohio. The commission has held in the past that it is not authorized to interfere where franchise rates have been fixed and the application will probably be overruled for this reason.

Tacoma Jitneys Resume.—Jitney service inside the city limits of Tacoma, Wash., which was stopped about one year ago when a heavy State bond was placed on the owners of service cars, has been resumed. The cars are operating under the old city ordinance, which gives them the right to occupy the city streets with their "For Hire" vehicles. The cars will not be operated as "donation" cars, but will establish the old fare.

School Ticket Case Decided.—The application of the Board of Education of Middlesex Borough for a rehearing on

its contest with the Public Service Railway, Newark, N. J., over the failure to accept school tickets on additional cars was acted upon adversely on March 13 by the Board of Public Utility Commissioners. The school board maintained that the railway was not meeting practical operating conditions for children traveling from Bound Brook to Plainfield when they could not reach school in time on the cars that honored the tickets.

Skip Stop in Jersey Up to Companies.—State Fuel Administrator Jenkinson, of New Jersey, acting upon the orders from P. B. Noyes, director of conservation of the United States Fuel Administration, has applied to the State Board of Public Utilities Commissioners for permission to put the skip-stop system into force on the electric railways operating throughout the State. The board announced that the laws of 1915 authorize the railways to act on their own initiative, but subject to ratification by the municipal authorities.

Automobile Rights Assumed in Purchase.—The Railroad Commission of California has consented to the transfer by the San Diego & South Eastern Railway to the San Diego & Arizona Railway, San Diego, Cal., of the right to conduct an automobile passenger and freight service between Lakeside, Ramona and Julian, San Diego County. The commission some time ago authorized the South Eastern company to operate on this route, but that company has now sold its properties to the Arizona company. The officials of the county of San Diego have approved the assignment of the franchise.

Interurban Seeks Fare Increase.—The Louisville & Southern Indiana Traction Company, New Albany, Ind., which operates between New Albany and Louisville by way of Jeffersonville, has filed with the Public Service Commission of Indiana a petition to double the fares on the line. By the proposed new schedule the fare from New Albany to Jeffersonville, which has been 5 cents, is increased to 10 cents, and the fare between Jeffersonville and Louisville, which now is 5 cents, is increased to 10 cents. This would increase the fare from New Albany to Louisville by way of Jeffersonville from 10 to 20 cents.

Six Cents Not Enough.—The Middlesex & Boston Street Railway, Boston, Mass., has filed with the Public Service Commission a new rate schedule, which if adopted will abolish the 6-cent fares on that road. At present the company has 6-cent, 7-cent and 8-cent fare zones, the first being largely operative in Waltham, Wellesley and Needham. According to the schedule filed on March 18, only the 7 and 8-cent fares would be operative, with charges of 1 cent on each transfer from a 7-cent to an 8-cent line, but there would be no charge on transfers from the 8 to the 7-cent zones. It is also proposed to abolish the present strip tickets of twenty rides for \$1.20.

Personal Mention

Mr. Perkins Elected

President of Shore Line Electric Railway Made President of New England Street Railway Club

Robert W. Perkins, president of the Shore Line Electric Railway, Norwich, Conn., was elected president of the New England Street Railway Club at the meeting on March 28. Mr. Perkins was born at Norwich on Aug. 21, 1865. His preparation for the transportation industry was a general business training, including clerkship with Tiffany & Company in New York City, traveling salesman, manufacturer and banker.

In 1906, when the Norwich & Westerly Railway was projected, he became



R. W. PERKINS

its treasurer, but a severe attack of typhoid, lasting several months, resulted in his severing his connection with that company in December of the same year. In 1909 the Norwich & Westerly Railway became financially embarrassed, and when the company was reorganized in 1912 as the Norwich & Westerly Traction Company, Mr. Perkins, on invitation of the bondholders' reorganization committee, became the treasurer of the new company. During the year 1912 he brought about the purchase of the Pawcatuck Valley Street Railway and the control of the Groton & Stonington Street Railway, through ownership of its common stock, these three properties thereafter being operated as one.

In 1913 Mr. Perkins was elected president of the Shore Line Electric Railway, which then consisted of a line from New Haven to Deep River, on the Connecticut River. In August, 1913, the Shore Line extended its tracks to Chester and became the lessee of the New London & East Lyme Street Railway and of the New London division of the Connecticut Company. By building about 10 miles of track a through line

was completed from New Haven to New London, supplying the last link in a line along the shore from New York to Boston.

In 1916, appreciating the advantage that would result from consolidation, Mr. Perkins and those with whom he was associated brought about the purchase by the Shore Line of the property and franchises of the Ashaway & Westerly Railway, the Norwich & Westerly Traction Company, the Groton & Stonington Street Railway and the New London & East Lyme Street Railway, which with the local New London and Norwich properties gives it about 240 miles of trackage in eastern Connecticut and western Rhode Island.

Mr. Perkins is perhaps best known in the electric railway world in connection with the introduction in New England of the flexible zone system of collecting passenger fares, first used on the Shore line and its allied properties in 1915. He has also been very active in electric freight and express development, especially in connection with the shipment of agricultural products and supplies. The use of the zone system on the Shore Line has been described in the *ELECTRIC RAILWAY JOURNAL* and the results obtained was the subject of an article by Mr. Perkins which appeared in the issue of this paper for Jan. 12, 1918, page 86.

A. C. Colby, formerly master mechanic of the Berkshire Street Railway, Pittsfield, Mass., has been transferred to a similar position with the Connecticut Company at Bridgeport, Conn.

F. L. Rearden, auditor of the Alton, Granite & St. Louis Traction Company, East St. Louis, Ill., and the East St. Louis Railway, has entered military service and is now major of the 124th Field Artillery.

Capt. H. B. Hearn, former superintendent of the Vicksburg, Shreveport & Pacific Railway, with headquarters at Shreveport, La., has been elected president of the Shreveport Traction Company, vice W. F. Dillon, who died recently as the result of an accident.

George Dolezal has been appointed acting master mechanic at the Broadway shops of the Denver (Col.) Tramway to fill the vacancy caused by the resignation of W. H. McAloney. Mr. Dolezal entered the service of the company in 1891 as a machinist. After a short period he was promoted to foreman at the East division, a position which he held until 1894, when he returned as assistant foreman to Mr. Crosby in the motor and truck department at the shops, holding this position until the death of Mr. Crosby,

when he was promoted to the foremanship. The title of the position to which Mr. Dolezal has been appointed has been changed from that of superintendent of rolling stock to the broader one of master mechanic.

President King Resigns

Head of Washington Railway & Electric Company Retires to Attend to His Personal Interests

Clarence P. King on March 31 retired as president of the Washington Railway & Electric Company System, including the Potomac Electric Power Company, Washington, D. C., and will make his headquarters in New York City for the present in order to give attention to personal interests. Until Mr. King's successor is named the affairs of the properties at Washington will be directed by William F. Ham, vice-president and comptroller of the company.



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C. P. KING

In tendering his resignation to the board of directors Mr. King stated that other interests have been demanding his entire attention for some time, but that he delayed severing his relations until many matters vital to the welfare of the company and its employees had been adjusted. The last of these was the raising of the pay of trainmen, which was effected just prior to his retirement from office, when the board of directors voted a flat increase of 3 cents an hour for motormen and conductors.

Mr. King has directed the affairs of the Washington Railway & Electric Company for about six and a half years. The gross earnings of the corporation for 1910 were \$4,123,559. Mr. King became its president in the latter part of 1911, and by 1916 the gross earnings had jumped to \$5,539,465. Last year the gross earnings were \$5,492,358, the slight falling-off being due to the railway strike that occurred in that period. This strike was fought on the question of recognition of the union, and at the present time there are no union men in the employ of the company.

W. A. Carson, vice-president and general manager of the Evansville (Ind.) Railways, the Owensboro (Ky.) City Railroad and the Henderson (Ky.) Traction Company, with a number of associates, some of them interested with him in the Evansville Railways, has purchased the Schroeder Headlight Company, Evansville, manufacturers of locomotive oil and electric headlights and turbo-generators. A new company, known as the Schroeder Headlight & Generator Company, has been organized with Mr. Carson as active vice-president and general manager. Mr. Carson will retain his connection as vice-president and general manager of the Evansville Railways in an advisory capacity, but the operating details will be looked after by G. R. Millican. He will also continue as president of the Crescent Navigation Company. Mr. Carson has been connected with the Evansville Railways since July, 1908. He was assistant to the general superintendent of the Indianapolis & Cincinnati



W. A. CARSON

and was assistant general manager of the Indianapolis, Columbus & Southern Traction Company from 1903 to 1906 and was assistant general manager of the Indianapolis, Columbus & Southern Traction Company from 1906 to 1908. Since Mr. Carson's connection with the Evansville Railways the company constructed a line in 1908 from Evansville to Newburg and built an extension from Rockport to Grandview in 1910. That same year a syndicate composed of officials of the Evansville Railways, of which Mr. Carson was a member, purchased the city lines in Henderson and Owensboro, Ky., and Mr. Carson was appointed general manager of both companies, which were taken over by the Evansville Railways in 1913. In 1912 a lease was secured on the line of the Illinois Central Railroad between Evansville and Henderson. This property was electrified by the Evansville Railways and a gasoline car ferry was installed to transport the interurban cars across the river. In 1913 the Crescent Navigation Company was incorporated with Mr. Carson as president, to operate on the Ohio River in connection with the railway properties.

Col. Thomas F. Sullivan, roadmaster of the Boston (Mass.) Elevated Railway, in charge of engineering construction and maintenance, has been named to the Civil Service Commission by Mayor Peters of Boston for the position of Commissioner of Public Works. Colonel Sullivan was born in South Boston in 1878. He is a graduate of the Lincoln Grammar and the English High Schools. He worked up through the road department of the Boston Elevated Railway to the position of roadmaster of surface lines. He was responsible for the introduction and use of many modern road-building and road-repairing appliances. He has never held political office. He enlisted in Company I, Ninth Massachusetts Regiment at the outbreak of the Spanish War and served until the regiment was mustered out. Colonel Sullivan is a member of the American Electric Railway Engineering Association, the National Geographic Society and the Massachusetts Public Safety Committee.

E. C. Deal has been appointed general manager of the Springfield Gas & Electric Company and the Springfield Traction Company, Springfield, Mo., which are controlled by the Federal Light & Traction Company. Mr. Deal gained his early experience with the lighting company of Atlanta, Ga., which he served in various capacities from 1894 to 1898. He then entered the organization of Stone & Webster, Boston, where he filled positions on properties controlled by them in Baltimore, Md.; Seattle, Wash.; Brockton, Mass.; Terre Haute and Brazil, Ind. In 1904 he resigned from Stone & Webster to go with the Gas & Electric Company of Bergen County in New Jersey as chief engineer. When that company was absorbed by the Public Service Corporation of New Jersey, Mr. Deal became superintendent of the latter company's electric properties in central New Jersey. He severed his connection with the Public Service Corporation in 1908 to go with the firm of W. N. Coler Company, New York, as manager and engineer of public service properties owned by them. Following the acquisition of the property of the Augusta Railway & Electric Company and the Augusta-Aiken & Electric Company, by a syndicate in which J. G. White & Company, Inc., New York, were interested, Mr. Deal resigned from Coler & Company to become general manager of the Augusta-Aiken Railway & Electric Corporation, the successor company in Augusta. This was in April, 1911. In April, 1913, he was elected vice-president of the company in addition to general manager. He was also made vice-president and general manager of the Georgia-Carolina Power Company, controlled by the same interests. Mr. Deal resigned from these companies on March 1, 1914, to become connected again with the W. N. Coler & Company as vice-president and general manager

of the public utility properties owned and operated by them. He resigned from this company in May, 1917, to join the organization of the Federal Light & Traction Company as general manager of the Trinidad Electric Transmission Railway & Gas Company operating utilities in Trinidad, Col., and other cities in the State.

H. M. Byllesby, president of H. M. Byllesby & Company, Chicago, Ill., who has devoted his time to government service since November, 1917, as a major in the aviation section of the Signal Corps, in charge of national recruiting, has been commissioned lieutenant colonel in this service.

G. R. Millican has been appointed general superintendent of the Evansville (Ind.) Railways, the Owensboro (Ky.) City Railroad, and the Henderson (Ky.) Traction Company. After leaving Purdue University in 1906 Mr. Millican became associated with the Tennis Construction Company, which was then building the electric railway



G. R. MILLICAN

between Newburg, Ind., and Rockport, Ind., and was with that company until the line was put in operation by the Evansville & Eastern Electric Railway in June, 1907. In the fall of 1907 Mr. Millican became connected with the office of the Evansville & Eastern Railway, now included in the system of the Evansville Railways, and in 1908 was made chief clerk to W. A. Carson, vice-president and general manager of the Evansville Railways, in which capacity he worked until August, 1910, when he was promoted to superintendent of the Owensboro City Railroad. He remained at Owensboro until Jan. 15, 1918, when he was made general superintendent of the Evansville Railways, the Henderson Traction Company and the Owensboro City Railroad. Mr. Millican will also be general superintendent of the Crescent Navigation Company, which operates a line of boats on the Ohio River from Rockport, Ind., to Owensboro, Ky., making connection with the cars of the Evansville Railway and another boat line operating from Grandview, Ind., to Tell City, Troy and Cannelton, Ind., connecting with cars of the Evansville Railways.

Construction News

Construction News Notes are classified under each heading alphabetically by States. An asterisk (*) indicates a project not previously reported.

Franchises

Pasadena, Cal.—The City Commissioners of Pasadena have asked permission of the Federal Reserve Board to vote on an issue of bonds intended to provide money for the purchase of the proposed municipal railway right-of-way between Pasadena and Los Angeles.

Trenton, N. J.—The New Jersey & Pennsylvania Traction Company has asked the City Commission of Trenton for permission to construct an additional track on Calhoun Street from West Hanover Street to the Delaware River bridge. The commission will agree to the proposition if the company will build a new bridge over Sanhican Creek at the approach to the river bridge.

Waco, Tex.—The Texas Electric Railway has received a franchise from the City Commission for the construction of a number of switches, spur tracks and extensions of its lines in Waco.

Track and Roadway

Selma (Ala.) Traction Company.—The property of the Selma Street & Suburban Railway, recently sold at foreclosure sale to S. G. Adams, has been transferred to the Selma Traction Company, a new organization, which will now operate the property. Improvements will be made and an extension built. J. D. Woodward, Warren, Pa., president.

Tri-City Railway, Rock Island, Ill.—Work will soon be begun by the Tri-City Railway on the double-tracking of its line from Moline to East Moline. Material for the construction is on hand.

United Railways, St. Louis, Mo.—It is reported that the United Railways will construct an extension of its Hamilton Avenue line from Wydown Boulevard to Clayton Road.

New York Municipal Railway, Brooklyn, N. Y.—The Public Service Commission for the Second District of New York is advertising for bids to be opened on April 15 for a part of the construction of Section No. 3 of the Culver Rapid Transit Line, extending from a connection with a part of the line now under construction at Avenue X and Gravesend Avenue and extending over streets and private property

to a connection with the Coney Island Terminal of the Brooklyn Rapid Transit Company below Sheepshead Bay Road. The commission also plans in the near future to let a contract for the construction of the necessary column foundations and supports for this elevated structure. There will be one station on Section No. 3 at Neptune Avenue, and known as the Van Sicklen Station. The commission once before attempted to let a contract for the construction of this line, but found it inadvisable owing to the high price of steel and other materials prevailing. The commission's experts have been watching the steel market, however, and have learned that it may be possible to obtain an advantageous price on the necessary steel within a short time.

Lake Shore Electric Railway, Cleveland, Ohio.—It is reported that as soon as the new franchises are passed by the City Council of Lorain, the Lake Shore Electric Railway and the Lorain Street Railway, a subsidiary, will spend about \$500,000 in improving its property in Lorain, including the elimination of grade crossings by running out Broadway and through the Twenty-eighth Street subway, the elimination of the loop at the foot of Broadway, widening Twenty-eighth Street from Fulton Road to Pearl Street, installation of a Y in their private property on the north end of Broadway, construction of the line from Erie Avenue out Colorado Avenue to the Cromwell Steel Company, and the extension of service east and west of Erie Avenue.

Pennsylvania Railroad, Philadelphia, Pa.—The first electric train on the Chestnut Hill branch of the Pennsylvania Railroad was operated on March 22 to test the system. Regular operation is planned for May 1. The next portion of the system to be electrified, it is said, will be the Wilmington division.

Philadelphia & West Chester Traction Company, Upper Darby, Pa.—The Borough Council of West Chester has granted permission to the Philadelphia & West Chester Traction Company to extend its freight facilities and service in West Chester. An additional track will be laid by the company.

Seattle (Wash.) Municipal Railway.—A bill is being prepared by Oliver T. Erickson, a member of the City Council of Seattle, for submission to the Council authorizing the issuance of utility bonds and the adoption of a plan and system for the extension of the present municipal railway on Avalon Way, Thirty-fifth Avenue Southwest and Admiral Way and other streets in West Seattle. In connection

with this, a bill will be prepared providing for the issuance of utility bonds for an extension of the proposed elevated railway on Washington Street from First Avenue South to Fourth Avenue South and condemnation proceedings for the right to proceed with such construction. The bonds voted at the recent city election provide for an elevated railway beginning at First Avenue South and extending to the bridge across the West Waterway on Washington Street, Railroad Avenue, Whatcom Avenue and Spokane Street. An extension on East Marginal Way from Spokane Street to the south city limits will probably be included in one of the bills that will be introduced in the Council. It is not expected that the extension work outlined will cost more than \$100,000. Materials for the extension are on hand, and cars can be operated over the line within forty-five days after the franchise is granted.

Charlestown (W. Va.) Interurban Railway.—Plans are being made by the Charleston Interurban Railway for the construction of a 2-mile extension of its line. About \$500,000 will be expended for this and other improvements.

Shops and Buildings

Lake Shore Electric Railway, Cleveland, Ohio.—The construction of a new passenger station at Lorain is being considered by the Lake Shore Electric Railway and the Lorain Street Railway, a subsidiary.

Philadelphia & West Chester Traction Company, Upper Darby, Pa.—A large freight building will be erected by the Philadelphia & West Chester Traction Company in West Chester.

Power Houses and Substations

Georgia Railway & Power Company, Atlanta, Ga.—A new substation has recently been completed and placed in operation by the Georgia Railway & Power Company at Camp Gordon.

Springfield (Mass.) Street Railway.—The Margaret Street power station of the Springfield Street Railway has been transformed into a substation of the Turners Falls Power Company, the old steam generating plant being abolished. The company will receive power from the Turners Falls Power Company. The change is expected to mean a great improvement through making possible a greater extension of peak loads and the elimination of the use of 100 tons of coal a day.

Charleston-Dunbar Traction Company, Charleston, W. Va.—A report from this company states that it will place contracts within the next week for the construction of a fireproof power station and for two new boilers.

Manufactures and the Markets

DISCUSSIONS OF MARKET AND TRADE CONDITIONS

FOR THE MANUFACTURER, SALESMAN AND PURCHASING AGENT

ROLLING STOCK PURCHASES • MARKET QUOTATIONS • BUSINESS ANNOUNCEMENTS

Railway Appliance Exhibit

Number of New Track Appliances on Display at the National Railway Appliance Association Show

Track materials, tools, railway signals and the like made a good display in the exhibition held at the Coliseum, Chicago, by the National Railway Appliances Association in connection with the railway engineering convention, March 18 to 21. One noticeable feature was the absence of large machinery. With the present demand for machines of all kinds they cannot well be spared to stand idle for exhibition purposes, and there would be difficulty and cost of transportation. Nor was there the usual large area of floor space devoted to rails and switches.

In track appliances, besides the usual varied lines of rail joints, rerailers, rail anchors, tie-plates, etc., there were two designs of crossing frogs giving continuous rails for one or the other track, and a new frogless turnout in which a shifting rail takes the place of a frog. A gas-heating system to prevent the collection of snow and ice at switches was one of the specialties. Substitutes for wood ties were represented by a built-up steel substructure, as used mainly for track crossings and street-railway track, and a metal tie composed of two steel castings connected by a tie bar. Something new in track fastenings was a spike made of a piece of round iron with one end bent into a loop to form the head. The spikes are driven under the rail at an angle of about 45 deg., with the end of the loop resting on the rail base.

Steady Demand for Coal-Crushing Apparatus

Manufacturers Meet a Necessity Occasioned by the Acute Fuel Situation

Manufacturers report that coal-crushing apparatus is enjoying a steady demand of considerable volume. There are several reasons for this. First, attention has been called to the very serious waste of fuel unless it is properly sized to burn on ordinary stokers. Second, the acute coal situation has made it necessary for coal buyers to take any kind of coal they could get, whereas in the past they might demand some particular grade or size of coal. This makes it necessary to install crushing apparatus at the plant of the consumer. Third, the manufacturers of crushing apparatus have ceased to devote their energies to trying to convert the coal mines themselves to the necessity of

crushing coal and have turned their energies toward the more fertile field of the coal user. All these factors have contributed to build up a healthy demand in the industry for coal-crushing apparatus.

Fussiness in Car Designs Not Tolerated By Builders

Specifications Must be Standard—Prompt Deliveries Mean Considerably Higher Cost

Railway men who are either in the market or are contemplating placing orders for new rolling stock are finding out a few things about the attitude of car builders during these strenuous days. The traffic operating manager of an important system, who inquired for specifications recently said he was rather surprised at the firmness with which the construction companies expressed themselves on so-called fussy designs. He found that anything outside of standard requirements would not be accepted excepting on long delivery. This meant, according to his statement, that the deliveries are postponed so long that by the time designated for shipment arrived the rolling stock was not needed. The traction official was frankly informed that fussiness in trim, furnishing and finishing of any cars these days would not be considered, unless on an indefinite future delivery. The cost would also be higher.

Another instance where delivery and cost figures related to the purchase of a milling machine for a traction road's car shop. One had been installed and operated with entire satisfaction for quite a period. A second was needed and the manager visited the manufacturer. At the close the railway man remarked that he supposed the price would be greater than the machine bought before. The maker declared no change had been made in prices. When it was mentioned that the milling machine was needed for immediate delivery the prospective buyer was blandly informed that under those circumstances the cost would be 75 per cent higher, otherwise it could not be shipped in three years. The railway official said he expected to pay an advance figure for the machine in question, but this was going it pretty strong. However, he declared this appeared to be the prevailing conditions everywhere and on everything. Urgency of deliveries was the controlling factor in determining price, the cost being a secondary consideration.

Buying at Low Ebb

Serious Condition of Delivery Situation on a Number of Electric Railway Staples Listed

Information secured from operating companies, manufacturer's representatives and jobbers indicates that the purchase of electric railway equipment and corresponding supply materials has certainly reached a low ebb in the Southeast. Compared with the same months of last year, the volume of sales shows a decided decrease. While it is true that a quantity of equipment has been bought by companies operating where military establishments have been located, requirements are pretty well provided for, and, on the whole, the present outlook is very quiet, with the possible exception of the activity now taking place at coastal cities or shipbuilding centers. Even at these points a degree of uncertainty exists, owing to the fact that nothing definite is known as to how far governmental assistance will extend. These operating companies are trying to handle the situation as they may arise, with existing equipment, together with certain additions readily available.

There is no doubt but that equipment from generating units and cars to rail bonds is badly needed, but the question is how to raise the funds, and if these are attainable, deliveries are the next potent factor. For those companies which have purchased fill-in and maintenance supplies to cover much-needed repairs and up-keep, the perverse transportation conditions, together with the fact that other essential industries are now calling on manufacturers for material of a similar nature, has further added to the difficulties at present experienced by operating officials.

Hydraulic jacks are promised in three to four months, geared ratchet and high-speed have been boosted to four to five months. The deliveries on gears and pinions show little change, holding at two to three months. One redeeming feature may be mentioned, and that is that lightning arresters can usually be obtained from stock. Trolley wire and feeder cable may be obtained anywhere from twenty to seventy days, depending on the factory conditions at the time of purchase. A very slight improvement is noticed in hangers and ears.

Rail bonds are reported to be coming along very well—thirty days being the average. The promise of shipment and deliveries on spikes is getting worse. It is almost impossible to get any date

on rails and only in isolated instances can they be secured in a reasonable time, and then in small quantities. Ties are coming along fairly well in small lots, with extended delivery dates on large orders. The delivery of brake equipment is somewhat uncertain, running from thirty days on priority orders for quasi-government work, to

three and four months on less essential orders.

Motor shipments are averaging from four to eight months. Controllers may be secured in five months, and car cable in a shorter time. On the whole, the above deliveries can be bettered if the equipment is to be used in serving military bases.

Supply of Raw Material Now in Fair Condition

Current Needs Difficult to Satisfy—Anticipating Requirements the Only Solution—Shipments and Deliveries Vexing

Broadly speaking, manufacturers appear to be in a fairly satisfactory position respecting the supply of raw material. Interviews with leading concerns in the various branches of the trade confirm this impression. Moreover, there is no indication of uneasiness regarding future requirements, despite the governmental restrictions on certain metals and other basic material. Deliveries, of course, are the bane of the industry, so much so that they are mentioned as affecting the ultimate selling price of the finished product. On the matter of prices generally an authority said that the most important factor contributing to the increases are the intensification of demand for material, the disruption of distributing processes, a shortage of labor and the decrease in the production of various products. Manufacturers with expanding programs are obliged to buy material when the opportunity presents itself for the certain delivery of the goods, preparing against periods when cars are unavailable for shipments. In other words, manufacturers have to stock requirements for future operations on a far greater scale than they would if they could depend on deliveries when the supplies are needed.

As one producer stated, the demand for raw material in the steel, iron and copper lines appears to have no limit. To be sure, it was explained, the situation is badly mixed, but the supply of metal and other material entering into the manufacture of machinery, generators, motors, transformers and apparatus of every description is easing up and deliveries are slightly better. Concerning wire and cables it was learned that copper seems to be plentiful for other than government work and can easily be had if the producers have it, and they are not yet being reported as short of the metal. Prices remain at the official standards. Shipments from the smelters can be made, but the embargoes hold up the deliveries. Unless priority orders, to which all shipments of this kind are subject, are obtained from the freight traffic committee by the consignee, the delay may be indefinite. Cotton and rubber, indispensable in the production of certain wire, cable and other electrical products, are practically in the same class as copper.

In other lines where not only copper is an essential but brass, slate, steel castings and sheets are basic materials

a representative of one of the largest manufacturers in either East or West said that his company had anticipated its requirements for the last two years and was therefore fully provided to meet every demand. In the fall of 1915 this concern carefully went over its inventories for the preceding year, and it based its requirements for 1916 on the aggregate plus 100 per cent. It was figured that this would represent the probable increase in the business, and material was placed on order on this basis. Of this stock of raw material 92 per cent was worked up into its finished products, representing only 8 per cent of overbuying. For 1917 the same plan was adopted, with a still further increase of 30 to 35 per cent, which will carry the plant up to September of this year.

By placing its orders far in advance this manufacturer—and there appear to be others following the same plan—provided against future inconvenience or shortage of material. The first question to be considered is the one of delivery, with price secondary, a rule which seems to prevail in every transaction. According to this concern, no contracts on copper can be made for future requirements. It is bought at the market—base price plus the cost of rolling or drawing. In order to be sure of a shipment of copper a manu-

facturer had three cars of the metal forwarded by express from Connecticut to a Western city at a cost of \$6,000. The company in question, like three-fourths or more of the manufacturers, has government contracts, and therefore shipments of either raw material or the finished goods are granted the advantages of priority certificates, otherwise the embargoes interfere with deliveries to the regular trade.

An advance in steel castings is considered a probability by a number of manufacturers, although it is intimated that the official price, which remains in force until March 31, will remain at the present figure. The American Iron and Steel Institute, acting in conjunction with the War Industries Board on this question, declines to state its position one way or the other. As regards gears and pinions, a manufacturer of prominence said, shipments have been held up since Jan. 1, which has resulted in the delivery of only a quarter of the quantity usually sent out. All export business has been suspended for the time being. While government control is not affecting gear steel, forged gear blanks are almost impossible to obtain on reasonable delivery. Pinion material is costing more than ever before, but prices have not advanced recently. Malleable iron is easier. In plants of this description and those on parallel lines in the electrical field labor is the most trying problem. Skilled workmen are required, and they are scarce and of uncertain tenure on account of the abnormal wages.

Quotations on nearly if not quite all raw material for electrical goods are made f.o.b. plant, with shipment at convenience of mill or factory. As one of several manufacturers who volunteered the information said, shipments in the immediate neighborhood can be accomplished, but to reach points in the Middle West with either material or finished goods is difficult, often taking two or three months.

Rolling Stock

Aurora, Elgin & Chicago Railroad, Aurora, Ill., advises the *ELECTRIC RAILWAY JOURNAL* that the purchase of six new cars reported in this column on March 16 is unfounded.

Springfield (Mo.) Traction Company has on delivery twelve new one-man cars built by the American Car Company, St. Louis, Mo. The cars were ordered in July last and were en route last week.

Central Arkansas Railway & Light Corporation, Hot Springs, Ark., has just received seven new one-man cars from the American Car Company. It has also bought five second-hand cars, which were rebuilt in its shops and are now in operation, replacing the rolling stock destroyed by fire in December last.

Chattahoochee Valley Railway, West Point, Ga., has put in commission on its system another new car, the second of the two reported as having been purchased.

New Jersey Transportation Company, a subsidiary of the Public Service Corporation of New Jersey, Newark, N. J., in order to temporarily furnish transportation facilities in advance of track construction, to new shipyards at Port Newark Terminal from the end of one of its lines, is reported to have purchased eighteen second-hand motor-buses.

Charleston Consolidated Railway & Light Company, Charleston, S. C., is reported as having placed an order for seven new passenger cars with the Cincinnati Car Company. Four are double-truck, center-entrance cars, automatic control and of the pay-as-you-enter type, seating fifty-two passengers. The remaining three will be light rolling stock, seating thirty-two, with automatic controls and also of the

pay-as-you-enter model. Delivery is promised in five months.

Murphysboro & Southern Illinois Railway, Murphysboro, Ill., mentioned in the **ELECTRIC RAILWAY JOURNAL** as having ordered new rolling stock, furnishes the following specifications:

- Number of cars ordered2
- Name of road..Murphysboro & Southern Ill. Ry.
- Builder of car body....American Car Co.
- Type of Car.....Closed Motor Passenger
- Seating capacity.....50
- Bolster centers, length.....23 ft. 0 in.
- Length over bumpers.....46 ft. 0 in.
- Length over vestibule.....45 ft. 0 in.
- Width over all.....8 ft. 10 in.
- Height, rail to trolley base....12 ft. 7 in.
- Body.....Semi-steel
- Interior trim.....Polish bronze
- Headlining.....Agasote
- Roof.....Arch
- Air brakes.....Westinghouse Traction Brake Co.
- Axles.....J. G. Brill Co.
- Bumpers.....American Car Co.
- Car trimmings.....J. G. Brill Co.
- Control, type.....H. L.
- Couplers.....Tomlinson M. C. B. (Radial)
- Curtain fixtures.....Curtain Supply Co.
- Curtain material.....Curtain Supply Co.
- Fenders or wheelguards.....Wood pilots
- Gears and pinions.....Westinghouse vertical staff with Pittsburg drop handle
- Hand brakes.....Giant perfected brake drum
- Heaters.....Peter Smith hot water
- Headlights.....Golden Glow S-M-95-9
- Journal boxes.....J. G. Brill Co.
- Lightning arresters.....Westinghouse
- Motors.....Westinghouse No. 523-B 4 per car
- Motors.....Inside hung
- Sanders.....Keystone air, E. S. S. Co.'s No. 18,575
- Sash fixtures.....Dayton Mfg. Co.
- Seats, style.....Brill Winner cressed steel reversible
- Seating material.....Rattan
- Springs.....J. G. Brill Co.
- Step treads.....Feralun safety treads
- Trolley retrievers.....Knutson No. 2
- Trolley base.....Westinghouse
- Trolley wheels or shoes.....Westinghouse
- Trucks type.....Brill 27-M C. B. 2x
- Ventilators.....Brill exhaust
- Wheels (type and size).....33 in. Davis cast steel M. C. B.

Toronto (Canada) Railway is reported as making specifications and oueries on 100 new passenger cars. The company lost 130 cars by fire about a year ago, referred to previously in the **ELECTRIC RAILWAY JOURNAL**.

Fort Wayne & Northern Indiana Traction Company, Fort Wayne, Ind., is reported as contemplating the purchase of seventy-five new one-man cars, additional to the lot on which quotations were asked from car builders, reference to which was made in the **ELECTRIC RAILWAY JOURNAL** of March 23.

Cleveland (Ohio) Railway having ordered twenty-five cars, as reported

in the **ELECTRIC RAILWAY JOURNAL** of March 16, the G. C. Kuhlman Car Co., builders, furnishes the specifications below:

- Number of cars ordered.....25
- Name of road.....Cleveland Ry.
- Date order was placed.....Jan. 16, 1917
- Date of delivery.....Already delivered
- Builder of car body..G. C. Kuhlman Car Co.
- Type of car.....Center-entrance trailer
- Seating capacity.....59 in winter and 69 in summer
- Bolster centers, length.....26 ft. 0 in.
- Length over bumpers.....49 ft. 0 in.
- Length over vestibule.....48 ft. 0 in.
- Width over all.....8 ft. 4 1/2 in.
- Height, rail to trolley base....11 ft. 3 7/16
- Body.....Semi-steel
- Interior trim.....Cherry
- Headlining.....Agasote
- Roof.....Plain arch
- Air brakes.....Westinghouse
- Axles.....Laclede Steel Co.
- Bumpers.....Chunnel type
- Car trimmings.....Railway Company's Standard
- Couplers.....Ohio Brass
- Curtain fixtures.....Curtain Supply Co.
- Curtain material.....Printed duck
- Designation signs.....Railway Company's Standard
- Door operating mechanism.....National Pneumatic
- Hand brakes.....Railway Company's Standard
- Heaters.....Peter Smith
- Journal boxes.....Symington Co.
- Paint, varnish or enamel.....Sherwin-Williams paint, Chicago outside varnish, Wright's inside varnish.
- Sash fixtures.....No fixtures, drop sash
- Seats, style.....Brill
- Seating material.....Rattan upholstered
- Springs.....Brill for seats
- Step treads.....Kass
- Trucks, type.....Brill 67-F Trail
- Ventilators.....Scullin type
- Wheels.....26-in. steel

Philadelphia Rapid Transit Company has been ordered by the Public Service Commission of Pennsylvania, as a result of the inquiry into service in that city, to purchase on or before Dec. 1, 1919, 100 new cars of the larger type. Following the cessation of the war, the company is directed to purchase new cars annually.

Portland Railway Light & Power Company, Portland, Ore.—Public Service Commissioner Buchtel, of Oregon, upon receipt of a report from Public Utilities Engineer Fred A. Rasch that the company would not be able to remodel nineteen cars to be used in relieving the congestion on its lines in the city until in the summer, stated that he would ask the company to increase the force employed in the remodeling work, and insist that the work be expedited. All of the nineteen cars are of the open type, and it will cost \$25,000 to remodel them.

Trade Notes

Triangle Conduit Company, Brooklyn, N. Y., announces the appointment of Alva D. Stein, 156 Purchase Street, Boston, Mass., as its New England selling agent.

Permutit Company, New York, N. Y., manufacturer of water-softening and rectification apparatus, has removed from 30 East Forty-second Street to 440 Fourth Avenue, where the entire top floor will be occupied by its offices.

Captain Richard P. Henry, late of the United States Army, has joined the selling forces of the Square D Company of Detroit, manufacturer of steel-enclosed safety switches, and has been appointed to the Indiana territory, with headquarters at Indianapolis.

Frank J. Foley, formerly manager of the mining department of the Westinghouse Electric & Manufacturing Company, on Jan. 1 became connected with the Edison Storage Battery Company, Orange, N. J., as manager of the mining and traction department, with headquarters at the main office.

New Advertising Literature

Railway & Industrial Engineering Company, Pittsburgh, Pa.: Illustrated folder descriptive of its various Burke specialties and their installation.

Wells-Morris Manufacturing Company, San Francisco, Cal.: Leaflet descriptive of its Wells motor-starting switches, designed for low-voltage and overload protection.

Pass & Seymour, Solvay, N. Y.: Three leaflets descriptive of their P. & S. 60,020 medium-base brass-covered receptacle, P. & S. 299 pull-chain brass splicing link, P. & S. porcelain receptacles and P. & S. sign receptacles.

Keyes Products Company, New York, N. Y.: Illustrated catalog on "Nev-split Panels—A Lumber Question Answered," descriptive of the company's products, how made, their various uses and the results.

RAILWAY MATERIALS

	March 20	March 27
Rubber-covered wire base, N. Y., cents lb.	27-30	27-30
Weatherproof wire (100 lb. lots), cents per lb., New York	28 1/2 to 34 1/2	28 1/2 to 34 1/2
Weatherproof wire (100 lb. lots), cents per lb., Chicago	33.42 to 28.35	33.42 to 38.55 1/2
Rails, heavy, Bessemer, Pittsburgh	\$55.00	\$55.00
Rails, heavy, O. H. Pittsburgh, per gross ton	\$57.00	\$57.00
Wire nails, Pittsburgh, per 100 lb.	\$3.50	\$13.50
Railroad spikes, X in., Pittsburgh, 100 lb.	\$3.90	\$3.90
Steel bars, Pittsburgh, per 100 lb.	\$5.00	\$5.00
Sheet iron, black (24 gage), Pittsburgh, per 100 lb.	\$4.90	\$4.90
Sheet iron, galvanized (24 gage), Pittsburgh, per 100 lb.	\$5.80	\$5.80
Galvanized barbed wire, Pittsburgh, cents per lb.	\$4.35	\$14.35
Galvanized wire, ordinary, Pittsburgh, cents per lb.	\$3.95	\$3.95
Cement (carload lots), New York, per bbl.	\$2.25	\$2.65
Cement (carload lots), Chicago, per bbl.	\$2.31	\$2.71
Cement (carload lots), Seattle, per bbl.	\$2.65	\$4.1
Linseed oil (raw, 5 bbl. lots), N. Y., gal.	\$1.58	\$1.57
Linseed oil (boiled, 5 bbl. lots), N. Y., gal.	\$1.59	\$1.59
White lead (100 lb. keg), N. Y., cents lb.	10	10
Turpentine (bbl. lots), N. Y., cents gal.	44 1/2	44 1/2

* Nominal. † Governmental price in 50-ton lots, f.o.b. plant.

NEW YORK METAL MARKET PRICES

	March 20	March 27
Copper, ingots, cents per lb.	23 1/2	23 1/2
Copper wire base, cents per lb.	26 1/2 to 26 3/4	26 1/2 to 26 3/4
Lead, cents per lb.	7 1/2	7 1/2
Nickel, cents per lb.	50	50
Spelter, cents per lb.	7 1/2	7 1/2
Tin, Straits, cents per lb.	\$85.00	\$85.00
Aluminum, 98 to 99 per cent., cents per lb.		†32

OLD METAL PRICES—NEW YORK

	March 20	March 27
Heavy copper, cents per lb.	22	22
Light copper, cents per lb.	19 1/2	19 1/2
Red brass, cents per lb.	18	18
Yellow brass, cents per lb.	13	13
Lead, heavy, cents per lb.	6.38	6.375
Zinc, cents per lb.	5 1/2	5 1/2
Steel car axles, Chicago, per net ton	\$42.41	\$42.41
Old car wheels, Chicago, per gross ton	\$30.00	\$30.00
Steel rails (serap), Chicago, per gross ton	\$35.00	\$35.00
Steel rails (relaying), Chicago, per gross ton	\$60.00	\$60.00
Machine shop turnings, Chicago, per net ton	\$17.00	\$17.00