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Reserves Should Be Provided For Depreciation

WE ARE glad that the association passed a resolution at the Cleveland convention indorsing the principle that railway companies should provide reserves to care for depreciation. The resolution was modified slightly from the form in which it was originally drafted and presented to the convention, but in essence the thought was not changed that proper electric railway accounting requires this provision to keep the capital value of the property intact whatever may have been the theory and practice of years gone by. The formidable list of decisions by commissions and courts quoted in the able paper of Mr. Fish proved conclusively that the authorities hold public utilities responsible in practically all cases where a lessening of property values comes from neglect to provide such funds. Hence utility managements have no choice in the matter if they are to preserve intact the equities of the security holders in their respective properties. Of course most companies now have such renewal funds but the passage of the resolution will stimulate a review by each company of the adequacy of the amounts charged in its case.

It may seem strange to many that electric railway companies in the early days disregarded so generally what is now recognized as an elemental matter in correct public utility accounting. We must remember, however, two facts. The first of these is that in the early history of electric railroading the life of equipment was greatly over-estimated, so that its annual depreciation was correspondingly under-estimated. The second was that in those days of rapidly improving equipment the traffic increased so rapidly as to give the impression that the value of the franchise owned by the company constantly increased in amounts which would counter-balance possible losses through depreciation of the physical property. The imperfections in this reasoning are apparent now, but many other things have been learned since those days. One of these is that a franchise to operate cars on a public street, when carrying with it obligations to pave and perhaps sprinkle the streets and to operate a certain schedule of cars at a limited rate of fare, will quite as often be found to be a liability as an asset.

Power Engineers Have Laid Out a Real Year's Work

THE committee on power generation of the Engineering Association met in New York City this week and mapped out a program full of promise and of hard work for several men. The plan may be summarized thus: The reports which will be prepared, only three in number, will be based on first-hand, up-to-the-minute data. They will show how electrical energy can best be bought or sold, what other fuels promise substantial savings over lump coal, and what are reasonable costs of producing energy in 1920 as

compared with a few years preceding in power plants of various sizes. Each of these subjects will be handled by a competent sub-committee which will be expected promptly to "deliver the goods."

Whether electric railways produce or purchase the energy required to propel their cars, their managers as well as their engineers must keep posted on power-plant development. In the former case it is obvious that failure to realize what is going on will result in rapid progress toward the rear of the procession. On the other hand, the railway man as a purchaser cannot make a good bargain unless he knows approximately what it costs to produce the energy which he buys or proposes to buy; and in addition he cannot afford to buy energy from a producer who is behind the times. For this reason the committee on power generation has an important and continuing function to perform. This is as true this year as ever. And if the discussion at the 1920 convention is as interesting as that at the first committee meeting, the success of the power session of the Engineering Association's annual meeting is assured.

A Bigger Job

For the Commissions

DURING the course of the hearings before the Federal Electric Railways Commission at Washington last summer much was said pro and con relative to the efficacy and value of state regulative commissions. One could not always judge from what was being said whether the speaker belonged to the group representing the public utilities or to one of the other groups before the commission. As a matter of fact the witnesses drawn from the group representing the public who objected to state regulation of public utilities were usually more outspoken in voicing their objections than were the objectors in the utility group. This state of affairs leads one to question as to whether the commissions as a whole are making the most of their opportunities.

Originally, the demand for state regulation came from the public and not from the utilities. The expressed idea back of the demand was that some regulative body was necessary to insure that the patrons of public serving companies should receive just treatment. But when the state legislatures began the task of creating such commissions they found it necessary, in order to avoid discriminatory and confiscatory legislation, to protect the investor in the utility as well as the user of the utility. In the early days of commission regulation, protection of the consumer was the large problem with the commissions, while in these latter days operating costs have so increased that the tables have turned and now it is the investor who needs protection. As a result of this change in conditions, the public, or at least a noisy part of it, is desirous of doing away

with state commissions. In discussing this matter with the writer recently a prominent member of the staff of one of the great state commissions said in substance that the commission with which he is connected did not dare to grant the rate increases which they sometimes felt were justified because the higher rates, if granted, would arouse public resentment to such a pitch that the commission law would be repealed and that such a repeal would be a real blow to the public utility user and to the investor.

Consideration of this aspect of the situation leads to the thought that possibly the commissions are adhering too strictly to the letter of the law governing their action. It would seem that if a public utility commission is to do its whole duty, it can not be simply a judge or an umpire. Neither can it be a mere board of arbitration or mediation. It must be all of these things and others as well. It must educate the public as well as discipline the utility. In addition to rendering a fair and impartial decision on a petition it might be well worth while if it took pains to see that the public had placed before it the full facts upon which the decision was based. That commissions can do much in the way of influencing public relations has been demonstrated by the Maine commission in Portland and other Maine cities. Some of the educational work of this commission in connection with the adoption of the zone fare system in Portland was described in our annual convention issue.

Asking for a Trolley System in 1919

YES, astonished reader, it's a fact! People are still asking for trolley cars in preference to any other mode of transit. The name of the town is a secret, but we'll tell you that it has about 25,000 people and grew to that dimension only within the last five years or after the building of electric railways had ceased to be a popular outdoor sport. Of course, you will be interested in some of the terms that the community is prepared to offer.

We'll just mention two. First, no paving taxes will be demanded; second, the character of service, such as headways, are to be free of those restrictions that can become so unreasonable with the years. Strange, isn't it, how fair-minded a community can be when the electric railway has not yet literally rooted itself in the ground and can't get away? Perhaps the technical reader will wonder why the ubiquitous jitney or the gaudy bus isn't filling the breach. The jitney is there all right at 25 cents per ride. As for buses, the community knows that it cannot expect well-lighted, properly-heated, and smooth-riding vehicles of that kind for the fare given by electric railways. Therefore, it has no hankering for a city service with buses. Very frankly it asks either for the electric railway or for the trackless trolley which may be likened to an electric railway in the making.

What a fine thing it would be if we could send to this town on a pilgrimage of study and penitence the representatives of the hundreds of communities that are squeezing the last penny in taxes and service regulations out of their electric railways and permitting the harassment of unregulated competition as well. At any rate, the spirit and preference manifested by this municipality are certainly encouraging to those of us who cannot help believing that the electric railway is still

the most popular and economical carrier of the people in most places most of the time, if only given a fair deal as against other forms of transportation.

The Safety Car Promises to Be the Car of the Future

THAT rapid strides have been made in the adoption of the one-man safety car is apparent to anyone who studies the tables on rolling stock published in our statistical issue of last week. Another striking fact, developed by the tables, is that the lowest level in car orders since 1907 has passed, due principally to the noteworthy record of the one-man safety car. The figures for 1919 showed not only an increase over the previous year of 115 per cent in the number of safety cars ordered, but also that 272 more cars of this type were ordered during this one year than the combined total for the past three years. A 100 per cent increase is also found in the number of companies purchasing this type of car. A comparison with 1917 showed a 400 per cent increase in the number of cars and a gain of 127 per cent in the number of companies. As to the outlook for 1920, forty-eight companies, or slightly more than 5 per cent of those in the country, have already reported that they were planning to purchase 748 cars, of which 598 are urban motor cars. Of the forty-eight companies ordering cars, twenty-six or 54 per cent are planning for 181 safety cars, and of those ordering two-man cars three companies will take 96 per cent of the total 417 cars.

We feel that from year to year the percentage of the urban companies ordering safety cars as well as the percentage of urban motor cars for surface lines ordered will continue to increase, due principally to the greater utilization of this type of car on the larger properties. It is only a matter of educating the public, and this ought not to take more than five years, to judge from the time required by the prepayment car to meet with general adoption. Based on this precedent, in 1923, the majority type of cars in most of our urban centers will be the safety car.

A Reasonable Platform for Employer and Employee

AT THE Cleveland meeting of Thursday Edwin Gruhl presented a scholarly but not academic paper on labor contracts. It is reprinted in full elsewhere in this issue. Mr. Gruhl is associated with a company that has endeavored constantly to get the viewpoint of its employees. This was illustrated in the account of the activities of the Milwaukee Electric Railway & Light Co. on behalf of its workers given in the Sept. 9, 1916, issue of the *ELECTRIC RAILWAY JOURNAL*.

The discussion generally was opposed to the plan offered by Mr. Gruhl on two grounds. One of these was that the union element as represented by recent actions was unwilling to carry out its contracts or to become financially responsible so that they could be penalized if they did not fulfill their agreements. The second reason advanced in opposition to the unionization of properties was that it deprived of liberty of choice those men who did not wish to affiliate with the union.

The history of electric railway companies includes experience with a great variety of relationships between employers and employees, ranging from no contract at all through individual contracts and the open shop, co-operative committees and profit-sharing, to the closed shop. Judgment on comparative merits of the different

plans employed should be based largely, in our opinion, on the results secured by each in the way of efficiency, the maintenance of discipline and the extent to which the results bring a recognition of the mutual interests of the company and the men. If experience with labor unions in the past had shown that their influence was in the directions just mentioned there would be less objection to them. Unfortunately their establishment on a property has had more often the opposite effect, namely, a weakening of discipline, a deterioration of service and a constant demand by the men for higher wages without any equivalent in the way of increased output or regard for the ability of the company to pay more money.

Mr. Gruhl's paper, as we understand it, is based on the thought that any bargain between a company and its employees, whether it is an individual contract or a collective one, must bring benefit to both parties to be satisfactory. Both sides must be willing participants in it and they must shoulder their respective burdens of responsibility for the outcome. As Mr. Gruhl points out, a labor contract is not essentially different from a contract to sell merchandise, for in the last analysis every commodity can be reduced to a labor equivalent. Labor involves so large an element in electric railway transportation, the continuity of this service is so essential to the communities served, and the present annual number of strikes is so considerable, that some way must be found for bringing about a mutual understanding of the situation by which both employer and employee will benefit. Until labor organizations, of whatever form, can demonstrate by their records of achievement and good faith that they do bring about these beneficial results to both parties, railway managers will very properly be opposed to the organization of their men by any outside agency.

Here Is a Job For a Statistician

EVEN the automobile industry is being aroused to the fact that "the car of the future will be a light-weight car." Advertisements have been appearing recently in leading daily papers with the above statement in large type as an introduction, and unsigned by any manufacturer or association. Apparently some one or group of individuals in the automobile world, as in the electric railway industry, has realized that automobiles, as well as electric cars, are carrying a great deal of unnecessary weight.

In the automobile the excess weight results in a greater gasoline and oil consumption per mile and a greater wear on tires. In our own industry unnecessarily heavy cars result in greater power consumption per mile and a greater depreciation in track. Slower schedules and consequently poorer service and less riding should also not be overlooked.

The propaganda for the light-weight automobile says: "Five million tons—the load of 100,000 freight cars stretching from New York to Chicago—the cargo capacity of 212 Leviathans, a weight greater than the effective tonnage of the combined navies of the United States, Great Britain, and France. All this is being carried daily as unnecessary dead weight by 6,500,000 American motor cars and trucks."

Here is an opportunity for some good statistician to figure up how much excess weight is being carried by the eighty odd thousand American electric railways cars. The result might also be quite impressive. Who is the first to volunteer?

Will Brooklyn Be Car-less?

IS BROOKLYN to have the experience of Toledo and Lawrence, Mass., with complete cessation of electric railway operation? This contingency is certainly suggested by the communication sent by Receiver Garrison of the B. R. T. to the Board of Estimate of New York on Jan. 7. If the company is allowed to charge 8-cent fares until a permanent settlement is reached, it would be worth while to continue operation, otherwise not. One of the aphorisms of the late Mr. Whitridge is that there is no profit in carrying passengers at less than cost, and this rule applies as well in Brooklyn as in any other city. If a franchise changes from an asset to a liability, a receiver, we should think, if authorized to do so by the court in charge of the property, would have the right to discard the franchise and make such other use of the property as the best interests of the creditors require. Just what Mr. Garrison, and the court under whose order he acts, will do we cannot of course say. But a most careful engineering analysis of the situation has shown that an 8-cent fare is necessary, and if this is the case it is a reasonable question as to how long the company is warranted in carrying passengers at less than cost.

The Spirit of Meeting Competition

ELECTRIC railways have sometimes been accused of sitting back and complaining of their misfortunes instead of taking aggressive action to meet competition which they faced. One of the thoughts expressed in the interview with Mr. Wheelwright which appeared in last week's issue is an excellent example of a progressive attitude. He discloses the fact that serious thought is being given to the use of one-man safety cars on a 22-mile interurban line as a means of meeting the competition from automobiles which is anticipated with the completion of a new paved highway paralleling this line. The idea is to replace an hourly service using large cars, with a ten or fifteen-minute service using safety cars.

There are undoubtedly many factors to be considered in such a venture and its practicability carries some doubt, though it is certainly not impossible. But the spirit which is embodied in the idea is most commendable. The company has not waited for the highway to be completed and the competition to become a fact before it gave heed to the problem but rather has anticipated the probable circumstances by months by definite planning and preliminary trials of the proposed use of the lighter, smaller equipment.

The running time on this 22-mile line at present is seventy minutes, corresponding to a schedule speed of 18 m.p.h. If we take into consideration the very much better rate of acceleration and retardation of which the safety cars are capable as compared to big, heavy interurban cars, and the fact that the lighter cars will slow down much less on the hills, it does not seem improbable that the same running time might be maintained with the safety cars. The question of safety at such a speed on open track is a matter for serious consideration, and there are numerous other operating questions which can be answered only by trial. Nevertheless, there are many economies which would accrue; there would result a better load factor in the energy required, better voltage regulation and less line loss. The principal advantage would be the holding of present traffic, or its increase. The idea merits consideration.

A. E. R. A. Holds Mid-Year Meeting at Cleveland

Increased Scale of Dues Was Approved, Resolution on Replacement Reserves Was Adopted and Papers on Depreciation and Labor Contracts Were Read and Discussed—Banquet Was a Brilliant Affair

THE ninth annual mid-year meeting and dinner of the American Electric Railway Association was held at the Hollenden Hotel, Cleveland, Ohio, on Jan. 8. It was preceded by a meeting of the executive committee, held at the same place on Jan. 7. Condensed minutes of this meeting are given elsewhere in the present issue. In the absence of President J. H. Pardee, the first vice-president, Richard McCulloch, presided at all sessions of the meeting, including the banquet. More than 300 attendants registered for the association sessions and nearly twice that number attended the dinner.

Morning Session

The meeting was called to order at 10.30 o'clock Thursday morning with a short address by the chairman.

ADDRESS OF VICE-PRESIDENT MCCULLOCH

In opening his remarks Mr. McCulloch outlined the critical situation of the industry and explained the purpose and plan of the program for the meeting. Following this he said, in part, as follows:

"I do not agree with some of the critics and pessimists who are prophesying that the street railway business is a dying industry. I do not believe that any method of urban or interurban transportation yet devised or which will be devised will ever compare with electric transportation on rails for economy or reliability. Certain other methods may have their advantages in fair weather, or for short hauls, or under other special conditions, but for effective transportation 365 days during the year, nothing compares with the electric street car. The electric railway is a necessity to the American city, and it is the duty of each municipality, as well as that of each railway company, to see that the electric railway functions, and functions under the best possible conditions. There would be no difficulty in bringing this about if what is popularly known as 'the street railway problem' were treated in each community from a business standpoint, and not regarded only as a political shibboleth.

"To put the problem which is now confronting us in its simplest form, the electric railways of this country have for a number of years been faced with an alarming increase in the prices of labor and material without a corresponding increase in revenue. This dilemma has become acute during the past two years, and receiverships, disintegrated systems and forced abandonment of lines as a result have multiplied. With the disappearance of net earnings, credit also took flight and both railways and municipalities have seen the serious situation suddenly develop of an industry essential to the community in business, convenience and conservation of health, unable to expand with the growth of the community, unable to finance its matur-

ing obligations, and in some cases unable even to meet its operating expenses.

"The industry was in this chaos when the President appointed the Federal Electric Railways Commission with authority to inquire into the condition of the electric railways and recommend such action as was found desirable to remedy the situation. The forthcoming report of the commission will afford some guide to those authorities who wish to help in the situation and who do not know how, or to those who do not at present possess sufficient courage. Much of our trouble, however, comes from those who are using electric railway affairs as a political football, and the report will be largely lost on them.

"It is rather remarkable that at the meeting of the Federal Electric Railways Commission, municipal ownership was not generally advocated by municipalities, although the purchase of the electric railway at a fair price and its operation by the municipality, making up the deficit out of the general taxes, offers the simplest and most obvious solution of the present quandary.

"There are three parties who must be considered in the adoption of any permanent street railway settlement—the public, the investor and labor. When the problem is approached in a spirit of fair dealing and with an open mind, it does not seem that the interests of these three parties are irreconcilable, or that fair solutions are impossible although these solutions may differ in different localities.

"The public demands such service as it may determine upon, and it should be willing to pay the cost of this service, such cost including the upkeep of the property and a fair return on the investment.

"The investor demands that his property be maintained in first-class condition, that he be assured the return of his money at the expiration of the term of his loan and that he receive a fair return on his investment. By fair return he means a return equal to what he could obtain in other enterprises involving similar hazards.

"Labor demands the best practicable working conditions, and a rate of pay equal to that in other enterprises requiring similar skill and training.

"This is not a mathematical problem to which there is one fixed solution applicable to every community. It is a problem involving many variables and some constants which must be assumed. It does seem, however, that the basic demands are so simple that if they are approached by both sides in good faith and with a mutual desire to reach an agreement, solutions may be found which will again put the industry on its feet.

"Two questions have been selected for discussion by this meeting; the necessity of a proper charge for depreciation and the matter of labor contracts. They

are of great importance and were primarily suggested by the character of the testimony given by some witnesses before the Federal Electric Railways Commission.

"It should be determined whether or not each railway company should set aside annually out of its earnings a sum sufficient to keep the property intact. Many companies are already setting aside a depreciation fund, but the accumulation of such a fund has been a fruitful cause of contention in rate of fare cases. The matter of the 2½ per cent to 4 per cent of physical property value required to insure future replacement may represent the difference between apparent solvency and actual insolvency. The street railway industry should look this matter of depreciation squarely in the face and not deal with it as a matter of expediency.

"The question of labor has always been of supreme importance, but labor matters have forced themselves to the front especially since the beginning of the war. The scarcity of men, the advance in cost of living and other causes produced an insistent demand for higher wages. This has been one of the most difficult problems for a railway operating under a fixed rate of fare to solve. Many companies now have labor contracts which never had them before. No two contracts are alike. What should a labor contract contain? That is certainly a pertinent subject.

"Your attention has already been called to the tremendous amount of work which the association has been doing both at its New York office and in connection with the hearings before the Federal Electric Railways Commission. Your president, who unfortunately is absent and whose unworthy representative I am, called your attention to the work of the association and its necessity for greater revenue in his address at the convention at Atlantic City in October. He appointed a committee on revision of dues which is to report at this meeting, and in the consideration of the report I bespeak your hearty support of the association."

INCREASE IN DUES IS APPROVED

Following Mr. McCulloch's address, Chas. L. Henry presented for the committee on constitution and by-laws, in the absence of Chairman L. S. Storrs, several amendments to the by-laws necessary to provide for an increased scale of dues. These changes were in accordance with recommendations of a special committee on revision of dues, of which Philip J. Kealy was chairman, which recommendations received the approval of the executive committee at its last New York meeting. The proposed changes in the by-laws had been submitted to the membership in advance of the Cleveland meeting in accordance with the provisions of the constitution. Mr. Henry presented the revisions as submitted, and moved their adoption, but before adopting them the meeting amended them so as to eliminate the special

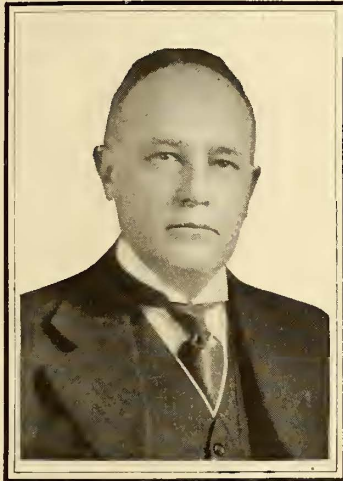
scale of dues provided for the fiscal year 1920. The scale adopted is therefore as follows:

REVISED FORM OF SECTION XIV—FEES

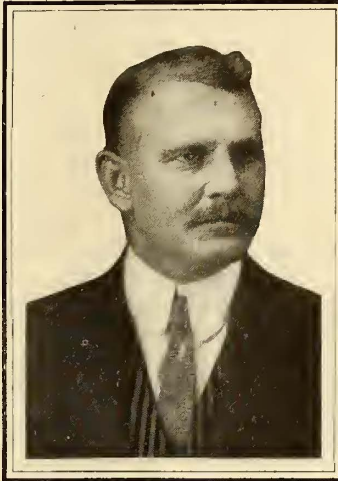
XIV. (a) Companies seeking company membership in the Association shall pay an admission fee of \$10. (b) For the fiscal year beginning Nov. 1, 1919, and thereafter railway member companies shall pay in advance annual dues in accordance, except as to minimum and maximum, with the amounts of their gross earnings from electric railway operation during the preceding fiscal year of the respective members as follows:

Companies having gross receipts of \$50,000 or less, shall pay fifty dollars (\$50) per annum; companies having gross receipts of more than fifty thousand dollars (\$50,000) shall pay fifty dollars (\$50) plus 0.00025 times their gross receipts, provided that no company shall be called upon to pay more than \$2,500.

For the fiscal year beginning Nov. 1, 1919, and thereafter, manufacturer member companies shall pay in advance, annual dues in accordance, except as to minimum and maximum, with the amounts of their gross earnings derived from the business of manufacturing or selling materials or furnishing service to electric railways during the preceding fiscal year of the respective members as follows:



JOHN H. PARDEE
President A. E. R. A.



RICHARD M'ULLOCH
First Vice-President A. E. R. A.

Gross Receipts:	Rate
Under \$50,000	\$50
Between 50,000 and \$100,000	75
Between 100,000 and 250,000	110
Between 250,000 and 500,000	175
Between 500,000 and 1,000,000	300
Between 1,000,000 and 2,000,000	550
Between 2,000,000 and 3,000,000	800
Between 3,000,000 and 4,000,000	1,050
Between 4,000,000 and 5,000,000	1,300
Between 5,000,000 and 6,000,000	1,550
Between 6,000,000 and 7,000,000	1,800
Between 7,000,000 and 8,000,000	2,050
Between 8,000,000 and 9,000,000	2,300
Oyer 9,000,000	2,500

RESOLUTION ON REPLACEMENT RESERVES

The first formal paper on the program was one by Williston Fish, vice-president West Penn Rys., in explanation of the situation regarding funds to cover replacements and abandonments of electric railway physical property, and by way of introduction to an appropriate resolution. Mr. Fish's paper was an exhaustive treatise on the subject of depreciation and will be reserved for more extended abstract in a later issue of this paper. A few of its "high spots," however, are given in the following paragraphs:

At the outset Mr. Fish said that no proof is needed to show that almost all elements of an electric railway have limited lives. Eventually they must be retired, replaced or abandoned, or, quoting Shakespeare, "If it be not now yet it will come." Money is required for these purposes and the question before commissions and courts in making and passing on valuations and rates, before city councils in making rates and framing ordinances, and before electric railways in presenting their

cases, is: When and how can this money be obtained?

The speaker then took up in detail the several phases of the subject, including definitions, the distinction between depreciation and maintenance, the relation of depreciation to the fixing of values and rates, the requirements of statutes and commission rules as to maintaining depreciation reserve, the advantages of a depreciation reserve and of paying for depreciation as it accrues as compared with payment at maturity, and the proper employment of the reserve fund.

In conclusion he summarized the many citations from commission rulings and other sources of information which the paper contained somewhat as follows: First, he said that all authorities agree that depreciation is a fact in law and nature. Second, a rule seems to be that in fixing the value of a property, prudently planned and properly managed, to determine the amount on which due return is to be figured "cost to reproduce new" is taken, less that part of the accrued depreciation which the revenues, after paying operating expenses, taxes and a fair return, have been sufficient to provide. Third, all authorities agree on the principle that in fixing a tariff of rates, it is proper to include in annual requirements any depreciation, as a separate item, not already included in maintenance. But if a company adopts the 100 per cent efficiency theory, with the plan of meeting depreciation as it matures, then it can scarcely ask for a depreciation allowance in excess of its maintenance figure. Fourth, statutes give to the Interstate Commerce Commission and a number of the state commissions power to require the utilities under their charge to any adequate depreciation reserves. It seems to be a general opinion of commissions that have considered the matter, that depreciation reserves should be carried. Fifth, the depreciation reserve has three functions; (a) to provide money for replacements when made; (b) to equalize annual replacement demand upon revenues, and (c) to maintain the investment's integrity.

To have a depreciation fund ready for use is to "put something aside for a rainy day." The theory of this reserve should be adopted, and its practice also, as far as possible. Companies should go after rates and economies that will provide the means for this fund; and the fund should be liberal.

RESOLUTION ADOPTED IN AMENDED FORM

After Mr. Fish had presented the resolution as published in advance of the meeting, contributions to the discussion from Bentley W. Warren and J. R. Bibbins were read respectively by H. C. Clark and E. B. Burritt. Abstracts of these are given below. An informal discussion was participated in by I. A. May, John S. Bleecker, A. W. Brady, C. L. Henry, Martin Schreiber, W. F. Ham, Bion J. Arnold and C. L. S. Tingley. The results of the discussion were certain amendments to the original resolution which, as passed, reads as follows:

"Resolved, That the American Electric Railway Association recommend to its member companies that, wherever possible, they provide in their accounting practice for the creation of adequate reserves to insure the property in advance of their actual replacement or abandonment, and that such reserve shall be provided for in cost-of-service franchises."

Before adjournment of the morning session, on motion of General George H. Harries, the association voted to cable the greetings of the meeting to President J. H. Pardee, at the time in Manila, P. I.

Depreciation, With Special Reference to Service-at-Cost Agreements*

BY BENTLEY W. WARREN

General Counsel Boston Elevated Ry.

NO ONE could follow the four weeks hearings before the Federal Electric Railways Commission without realizing the widespread interest in the service-at-cost plan for urban transportation. The same interest is manifest in many sections of the United States, and it seems almost certain that, in some form, the plan will be adopted in an increasing number of communities and applied to many railway systems.

In New England, the service-at-cost idea, as advocated at the Washington hearings, has not attracted much support. The reason, however, is simple. The New England States have fortunately been free from the fallacies of contractual relations between municipalities and transportation utilities. Cities and towns have been generally recognized as mere governmental agencies, for which others might be substituted at the pleasure of the Legislature, and the real purpose of the carriers as grantees of certain public easements, which they must exercise for the public benefit of travelers in return for reasonable compensation for the private capital devoted to maintaining these public easements, was early understood and insisted upon. Consequently, the regulatory laws of those states as interpreted by their courts, have now for many years brought about a situation in which the cost of the service has constituted the standard of state regulation. Local restrictions have frequently been swept aside and may in *all* cases be abrogated, when deemed by the Legislature a hindrance to the most efficient fulfillment of the public purpose for which the utilities were chartered and are permitted to continue.

With the increasing scope of the state regulation in New England and the prospect of the increasing adoption of local service-at-cost franchises in various other jurisdictions, certain problems, common to both methods of treating those utilities, are presented. Unless properly solved, these problems threaten disaster to the industry and to the public which looks to it for transportation service.

At the outset is the determination of the value of private capital devoted to this public service. All witnesses at Washington agreed upon the necessity for this determination. In New England, it has been substantially accomplished through years of supervision of all security issues. Consequently, the total capitalization approximately represents the total cost of the property. Elsewhere, some method of appraisal and valuation has been found either necessary or desirable. By whatever course effected, such determination furnishes the basis for fixing the amount upon which the private investors are entitled to a return.

The rate of fare is supposed to go up and down in accordance with the cost of the service furnished by the utility. In this cost is of course included the proper or stipulated return upon the investment, the current operating costs and the permanent maintenance of the property at a proper standard of efficiency. There is noticeable a general disinclination on the part of the public's representatives to permit as much elasticity as is reasonably needed to assure the best service to the public, in respect (a) to return on investment, (b) to current operating requirements, and (c) to such prompt

*Abstract of discussion on depreciation resolution.

and complete renewal and replacement of property elements as the progress of the art, quite as much as the actual wearing out of those property elements—shows to be necessary. Proper provision for all these items of the cost-of-service depends upon the rates of fare. By keeping down capital return, operating allowances and renewal reserves, the public representatives expect to keep down the total cost of service and consequently the individual cost to each person served. Low fares for the present generation are made almost a fetish.

DESIRE TO PROTECT PRESENT USERS A FALLACY

This desire to protect, above all, the present users of a public utility is as general as it is fallacious. Its motive is easy to understand. Public representatives, whether Interstate Commerce or State Commissions, municipal officials, state legislators, or special and temporary appointees, are keenly sensitive to the interests and criticisms of their contemporaries. The approval of the latter is desired, their condemnation is feared, even continuance in office may be involved. The next generation, however, is unrepresented. It has no votes, it writes no letters to the press, it makes no speeches in political campaigns, and has no voice at public hearings. It might, perhaps, be seriously argued that in every proceeding affecting proper maintenance and renewals of public utilities there should be appointed a guardian, "*ad litem*," to represent the unborn future users of the utility, following the analogy of probate court proceedings.

Most successful business enterprises, whose managers are free to conduct them as seems wise, will be found to have erred on the safe side of overmaintaining their properties. While the New England electric railways are struggling along without dividends, with no credit, with insufficiently developed and in many cases antiquated or depreciated plants, we see the New England shoe factories and textile mills flourishing, their plants worth more than their books indicate, enjoying the best of credit and always prepared to take advantage of a favorable, or to overcome an unfavorable turn of the wheel of fortune. Why is this? The managers and investors in New England manufactures and in New England transportation belong to the same race. Indeed, the investors in both are often the same people. Is it not because the manufacturer manages his own business, decides how much of his income he will apply to maintenance and renewals, and improvements, while the poor transportation operator nervously fingers over the many pages of the commissions' accounting directions, usually seeking the aid of one or more expert accountants, and charges all sorts of items to construction and betterment accounts, which any conservative man conducting his own business would charge to operation? The Interstate Commerce methods of accounting, like those of many State Commissions, tend to top-heavy capitalization, and this is, I imagine, what the service-at-cost plans will do.

A quarter of a century ago, it was the boast of certain steam railroads that they had absorbed their construction accounts years before. Those companies can bear even the exigencies of a great war and preserve their credit. The old horse railroad accumulated a surplus sometimes apparent in the balance sheet, sometimes discoverable only upon inspection of the property. New cars were bought and charged to maintenance. The construction accounts were rarely opened except to meet the cost of actual extensions and not always then.

The introduction of electricity has developed the street railway into much more of a mechanical and machinery proposition than was the horse railroad. With this change has come not only a more rapid wearing out of property elements but of necessity a more frequent substitution of new and better appliances and machinery. Under modern conditions applicable to electric railways it may well be doubted whether any expert estimates of the life of the various major items of property are of great practical value in determining proper reserves.

A Massachusetts shoe manufacturer in the course of one of those questionnaires to which Washington officialdom likes to harass business men was asked the length of life of his machinery. He has apparently made a practical instead of a theoretical charge for depreciation. His reply throws light on that whole subject, "I know that if a new machine is invented next year better than mine, mine will be dead. It will be junk, worth only what the metal in it is worth. Its life depends on the date of the next invention. I wish you would tell me that date. I have tried to learn it. When I do, I can answer your question. I am in a competitive business and must be prepared to adopt the best and latest machine as soon as it appears."

The street railway is also in a competitive business so far as the need of adopting the best and latest appliances is concerned. Its competitor is not another street railway, but is the endless, ever-insistent demand of the public that the best is none too good and must be furnished.

RESERVES SHOULD BE DOUBLE WHAT ESTIMATED LIFE INDICATES

Unless this matter of replacement and renewal receives proper attention and liberal treatment, service-at-cost plans will not bring the relief that is anticipated. It is possible that the best estimates upon the life of power stations and rolling stock, for examples, based solely upon their durability and serviceability, measured by present standards, ought to be cut in two in order to meet future developments and improvements, that is, the reserves should be twice what the estimated life would indicate. This would involve no injury to the car riders, with the capital return limited, and the amount in which it is to be paid determined. Any excess reserve would be in the property and could not under any proper system of regulation be withdrawn from it. Neither could such resources be utilized to enhance the value of the property in case of its purchase by the public if the provisions for creating and using the reserves were properly drawn. The alternative must be in all probability a second controversy in the future as to the value of the property devoted by the utility to the public use. It is easy to protect the public against the inclusion of over liberal reserves in the value of the property to be paid for by the public. It is not easy to convince the public that insufficient reserve and apparent consequent impairment of property are due to the past failure of the public to pay remunerative fares sufficient to maintain that property.

The Boston Elevated Railway Co. has never paid over 6 per cent dividends. All of its stocks and bonds have been issued under public supervision. Indeed, its stock represents an investment in cash of approximately \$112 a share, so that its average dividends have been substantially less than 6 per cent of the amount paid in by its stockholders. It was the only company

having a fare fixed by statutory contract and was allowed to charge only a flat 5-cent fare. In recent years, until public control substituted the 10-cent fare, its revenues were not enough properly to maintain the property. A large part of the public now thinks that condition is in some way the fault of the company and that the public ought not to pay a return upon the actual investment because part of that investment has disappeared for the reason that that same public has been paying too little to keep the property up. Companies proposing or forced by public sentiment to enter into service-at-cost arrangements should guard against accepting provisions likely to end in a situation similar to that of the Boston Elevated. Unless they do they will ultimately find their relations with the public little more satisfactory than at present. Renewals must as surely be provided for as the payroll. In my opinion, that provision should take into account probable increased cost of the renewals, whether from higher cost of the same things or the highest cost of better things available, and required by the higher standards prevailing when the time for renewal arrives. The tendency to insist upon capitalizing every last cent of theoretical betterment represented in the substituted item over the earlier one should be resisted. No utility and no part of the public will suffer from conservatism in swelling the capital and construction accounts.

Depreciation—Some Lessons from 5-Cent Fare History*

BY J. R. BIBBINS

Engineer The Arnold Company, Chicago, Ill.

IT IS indeed appropriate and timely that the American Electric Railway Association should be called upon to consider the much befogged issue of depreciation as an element in cost-of-service franchises and to formulate in specific terms a basis for proper accounting therefor, both with reference to current accounting and also the actuarial problem of providing for the future. The writer will not attempt to burden the proceedings with arguments in favor of considering depreciation in any of its forms, for he believes that the existence of depreciation is so forcibly proven in utilities as well as other industries, that the whole question simply resolves itself into a moral issue—who is to pay the piper? Should the utilities stand on a platform of pay-down, pay-as-you-go, or pass on to the future the burden of accruing as well as matured depreciation?

The writer desires to record himself definitely in favor of the resolution as presented.

However, there is one aspect of the problem which he regards as most vital and fundamental, and yet which has practically been lost sight of in discussions of this subject by those who should have considered it most profoundly. And this is: Considering past history, has the public in fact paid for the capital investment used up in its service in the rate of fare collected?

The cost-of-service basis is today accepted by the utilities as the only practicable and fair means of securing a rate of fare commensurate with the current cost of transportation. So far it is eminently just and scientific. But why do we apply the cost of service today and neglect to ascertain whether this same basis has applied in the past, and whether the public has accepted service at less than cost? Manifestly, this is an

actuarial problem, not a simple problem of today; for there are two fundamental, distinct elements involved, one dealing entirely with current costs of operation and money, and the other dealing entirely with the heritage of the past and the probabilities of the future.

To prescribe a reserve for unmatured depreciation as an element of today's cost of service, is eminently sound accounting and reflects past experience as applied to future expectations. So far, so good. But the other element, based upon the actualities of past history, should not be neglected, for it is entirely in the interest of the utilities to ascertain whether the past holds for them any equity or credit (of the existence of which the public seems to have no knowledge), resulting from the above-mentioned fact that the service may have been given at less than cost. That such an important consideration in the interest of utilities should have been lost sight of in practically all current proceedings, is a matter of curious interest.

BY-GONES ARE NOT BY-GONES IN THIS BUSINESS

This whole subject resolves itself into a determination of the historical investment and return as gaged by standard practices of today and scientific accounting. It is indeed curious that so few historical determinations have been made by the utilities. On the other hand, there seems to be a widespread expression against this policy, in other words, "Let by-gones be by-gones," "let the door of the past be closed." Thus the utilities have deliberately sacrificed in probably the majority of cases practically the only opportunity which is open to them today to certify to their past loss and to the fact that the "pay-down" plan of cost-of-service has not been met in the past; that is, that the public has accepted service at less than cost.

Is it not obvious that to close the door of the past deliberately throws the utilities into a defensive position, where in many cases an offensive position could be taken, and makes it necessary for them to combat the public's demand for depreciated value as a basis of rates, with no other weapons of defense than hysterical argument and lengthy legal procedure, neither of which may have a sound basis of fact or reasoning capable of proof in direct and explicit form? On the other hand, a historical determination often yields results which in themselves are unanswerable and constitute a positive defense, as distinguished from the very uncertain defense based upon argument, opinion or persuasion.

To be specific: let us examine the history of the 5-cent fare in the railway utilities, ascertaining the true net investment from year to year, the true annual rate earned thereon, and the net result in the form of cumulative surplus or deficit from the beginning up to the present time.

The result of such a determination would offer positive proof as to whether the public had or had not contributed in past years sufficient revenue to permit the utility to conduct its business on the standard basis of accounting which is demanded today. Thus in a capitalization case, a fare case or a service case of today, the moral issue involving both sides of the controversy would stand out clearly, that is, can the past generation justly transfer a part of its proper burden of the cost-of-service to the present generation alone, or evade its responsibility still further by subtracting from the property or assets of the utility an amount representing such shortage in revenue?

* Abstract of discussion on depreciation resolution.

Does it not appear that the problem is far too broad and fundamental to be treated in the usual narrow way of simply denying the existence of depreciation in the effort to "save our bacon," while on the other hand there is actually involved the whole problem of apportionment of responsibility between past, present and future generations?

The writer believes that if the complete facts were spread open to analysis, both the riding public and finally the voting public would be brought to a clear understanding and fair attitude in the matter, where unlimited expenditure of effort and funds in legal procedure could never accomplish the same result.

[By way of illustration of his contentions Mr. Bibbins traced the investment history of a large railway property on a 5-cent fare over a 50-year period, giving the results in graphical form. (See E. R. J. Sept. 20, 1919, page 570). He summarized the results as below.—EDS.]

The hard facts which the owners of this property face today, as drawn from this typical economic study, may be summarized as follows:

Apparent rate earned, 1860 to 1919.....	6.85 per cent
Apparent rate earned, electric period, 1891 to 1919..	6.60 per cent
Actual rate earned, electric period, corrected for cost of carrying deficits and assumed amortization of accrued depreciation to date.....	5.27 per cent
Actual rate earned, electric period, corrected finally to cover renewal fund reserve necessary to meet future renewal liability at the highest peak of renewal work (using pre-war normal prices)...	5.03 per cent

Thus the actual economic history of electrical operation of this property has seemed to be on a basis of less than five per cent, considering present-day renewal costs. With such an exhibit spread upon the records, does it seem wise to attempt to close the door of the past? And can any amount of argument, opinion or persuasion satisfy the fair-minded public as fully as by the results of such an accurate historical determination?

The writer submits that if such a policy of open-minded research were generally accepted, and favored by the utilities, there would be little difficulty in securing acceptance of the basic principle involved in the resolution under consideration by this association. One of the most recent applications of the principle proposed is in the Minneapolis cost-of-service franchise, which was in fact worked out with this principle in view.

Afternoon Session

The afternoon session was called to order at 2.30 by Chairman McCulloch. After the opening of the meeting Martin Schreiber, Public Service Ry., offered a resolution on the death of George V. Weston. The resolution, which was adopted by a rising vote, follows:

"The American Electric Railway Association has learned with the deepest sorrow and regret of the sudden death of George V. Weston, one of its most valued and esteemed members. Mr. Weston had, in connection with the association committee on valuation, just completed a work of such great value to the industry that its final effect cannot now be properly estimated. The qualities of loyalty, faithfulness, fairness and untiring energy which characterized his connection with the association and the committee, marked his personal and business relations throughout his entire life. It is therefore fitting that the association, in this meeting, express by this resolution its sorrow at his untimely demise and its appreciation of

his service, both to the organization and the industry

"The secretary is hereby instructed to spread this resolution upon the minutes of the association and to convey a copy thereof to Mr. Weston's family."

Edwin Gruhl, Milwaukee Electric Ry. & Light Co., then read a paper on "Essentials of a Labor Contract." This paper appears in full elsewhere in this issue.

At the close of Mr. Gruhl's paper the secretary read a written discussion contributed by F. W. Hild. An abstract of this discussion is published on another page. R. I. Todd, Terre Haute, Indianapolis & Eastern Traction Co., also read a short paper on the same subject, which is abstracted elsewhere. F. W. Doolittle, Milwaukee Electric Ry. & Light Co., then said that Mr. Gruhl had performed a real service to the association by his very clear preservation of the points of issue between labor and the railway managements. He then read a paper, abstracted elsewhere, amplifying the opening statement in regard to the mutuality of interest of labor and company by saying that the failure to have mutuality could not be placed at the door of the managers but rather at that of the other two parties—labor and the public.

C. D. Emmons, United Rys. & Electric Co., Baltimore, Md., followed Mr. Doolittle in the discussion. He called attention to his experiences in Massachusetts, when in three years there were seven cases of the labor union breaking its contract with absolute disregard of the rights and interests of the company and the public. As to arbitration, he said the unions would not submit to that manner of settlement unless they knew in advance that two of the three arbitrators were favorable to their cause. He cited one instance where a man suggested by the union's own counsel and supposedly appointed, was afterward rejected when it was gleaned that he was not committed to an award to labor.

Mr. Emmons then spoke briefly of the co-operative plan which has been substituted for the union in Baltimore. The union committee has been displaced by a body of twenty-eight members elected from the membership of an association of the employees. This association has a contract with the company and there is also an individual agreement between each employee and the company. Both company and men co-operate as far as possible in all matters of mutual concern. Company representatives sit in at the meetings of the employees and advise with them and there seems to exist a feeling of satisfaction on the part of the men that they are controlling their own affairs. The arrangement is producing satisfactory results for the company.

Fred G. Buffe, Kansas City Rys., gave a brief review of the serious difficulties which have been had in his city during the past year. One strike was called when the men were suddenly organized, and another when they went out in sympathy with the striking laundry workers. Finally, the company determined to operate the system without the union men and began with eighty cars, the regular service calling for about 600. From this beginning, service was gradually built up to normal, although it took several months to acquire and break-in a complete new operating force and involved a tremendous task. But it was demonstrated that service could be given without the union.

Mr. Buffe said that at present his company has the finest force of trainmen and the best spirit that it has ever enjoyed, and is making every effort to pay the

men properly and to see that they get a square deal in every respect.

He mentioned the effort being made in Kansas City, Kan., by Governor Allen, to work out a plan whereby the labor unions will be financially and individually responsible in the contracts entered into. He characterized this effort as the one constructive step forward being made in the country to establish the responsibility of the unions on an equitable basis.

General George H. Harries closed the discussion on the labor problem. He said that the paper of Mr. Gruhl presented a very interesting theory for settling labor disputes, but he was afraid it was somewhat idealistic. Personally, he was not an idealist, and he laid down the axiom that where theory harmonizes with actual conditions it may be accepted as fact, otherwise it is no more than a dream. He said that individual freedom of contract is an American principle and asked what, under the plan proposed, a company could say to the unorganized majority of employees who did not want to join the union.

At the close of the discussion on Mr. Gruhl's paper Mr. McCulloch said that the executive committee had received several letters suggesting that more frequent meetings of the association be held during the year and asked for discussion on this point.

Mr. Henry thought no more frequent general meetings were needed, but after saying that the midyear meeting might be held somewhat later in the year to bring it more nearly midway between the October meetings, suggested that the executive committee might hold meetings in different parts of the country at which those in the vicinity could meet with the committee and topics local in their character could be discussed.

Mr. Coates suggested that two such meetings of the executive committee be held annually at points other than in New York and the place of the annual meeting. This was put in the form of a motion and carried. The meeting then adjourned.

Justice to Both Sides in Arbitration*

BY F. W. HILD

General Manager Denver Tramway

Contracts between organizations, whether conducted as commercial enterprises or as mutual benefit organizations, such as labor unions, should carry with them responsibility and reliability of performance by the parties thereto. Unfortunately, a number of instances have developed where only one party to the contract is bound and that one the company. For that reason many people believe that until the labor unions assume and demonstrate their full responsibility by legally incorporating their organizations, the essentials of a labor contract are best represented by zero—nothing. There seems to be a growing realization on the part of union labor of the importance and necessity of thus establishing responsibility. In the meantime, however, since contracts are being entered into between the employer and groups of employees, there are at least two matters to be considered by those in the electric railway industry.

The question of settling wage controversy by arbitration seems to be regarded with anything but uniformity among the labor unions. Some apparently are strongly in favor—others as bitterly opposed. That section of

organized labor known as the Amalgamated Association of Street and Electric Railway Employees of America is among those which have announced themselves as favorable to arbitration, and this, of course, has its appeal to public opinion.

The companies would find small objection to arbitration if the arbitrators, when fixing wages, could also fix the rates of fare necessary for the revenue to pay the wages. In the absence of this happy condition the company can agree to arbitration only if provision is made for safeguarding it against serious loss or possible insolvency which might result from the wage awards. It is, therefore, important that a labor contract providing for arbitration should also contain a section requiring the arbitrators fully to consider the artificial limitations upon the company's revenues and to make their findings accordingly.

Naturally, the more explicitly this can be set forth, the better for all concerned. For the union, according to my experience, will object to the safeguarding clause while insisting upon the arbitration clause.

In Denver, the company agreed to the arbitration clause, only on condition that the union also agree to the following clause being written into the contract:

Section 2. As a part of this agreement it is recognized as a basic principle that the public is entitled to good, adequate and convenient service, that the employees are entitled to good compensation and good working conditions and that the investors in the company are entitled to a secure and reasonable return upon their investment as represented by the fair value of the property and both parties hereto agree to exercise their best endeavors in the attainment of these objects collectively.

Under this clause the arbitrators in determining the question of compensation at issue must consider the obligations of the company to all three of the parties interested—the public, the investors as well as the employees, and in the preparation of an arbitration case under such an agreement the company should present exhibits in the order named covering substantially the following:

Service requirements for the public; list of employees and their compensation; cost of living; occupational comparisons; hours of service and working conditions; revenues and expenses.

Each of these is quite a story by itself. Compensation figures should be given on the basis of yearly earnings as the result will show interesting comparisons with some of the crafts where higher hourly wages are in effect but which offer no such continuity of employment as is in the street railway industry.

Objections to Union Collective Bargaining*

BY ROBERT I. TODD

President Terre Haute, Indianapolis & Eastern Traction Co.

THE paper by Mr. Gruhl presents many very interesting and original suggestions regarding the best methods of handling the labor question in connection with his discussion of the details of what are the "Essentials of a Labor Contract." These are all worthy of careful consideration, but some of them are such as could hardly be safely followed.

The principles laid down in this paper would seem to contemplate the unionizing throughout of all the labor departments of the street and interurban railway properties of the country and dealing with all employees collectively, covering not only the platform

*Abstract of discussion on Mr. Gruhl's paper.

* Abstract of discussion on Mr. Gruhl's paper.

men, but including as well in one collective organization, the power house and substation men, shop men, track men, linemen, etc. The developments in recent months show that the tide is drifting the other way, which drift has been strongly augmented by the results of collective bargaining, through forced unionization of street railway properties, particularly during the war period just passed, and which has been so disastrous not only to the companies themselves but also to the comfort and convenience of the public whom they serve. It would seem to be clearly the duty and obligation of all street railway companies in the country to use every effort in their power to prevent such unionization of their properties and consequent union collective bargaining which has practically ruined many of the street railway properties of the country.

Labor unions throughout the country have absolutely refused to incorporate and assume any financial responsibility, preferring the present method of making contracts through union collective bargaining, which are binding on the company on the one side, but are treated as mere "scraps of paper" by the unions whenever it suits their selfish interests, or even their idle whims. The history in the past shows that no labor organization would accept the plan of assuming any financial responsibility as proposed in Mr. Gruhl's plan for collective bargaining.

We are now entering a period when a great deal of attention will be paid to the particular relations between capital and labor. At such a time the owners of the street and interurban railway properties throughout the country certainly need the benefit of all the points which have already been threshed out in the courts and decided in their favor. Whatever is shown to be reasonable and desirable will be conceded in the way of better working conditions or for satisfactory adjustment of grievances, and all will agree that fair wages are to be paid. Certainly this does not require, and should not be accompanied by, an abandonment of the rights of the companies and especially those rights which have been decided and definitely settled by the courts.

The right to stop by injunction the meddlesome interference by outside labor agitators, who are not employed upon or in any way interested in the property, should in no case be surrendered. Therefore, in considering the drawing of such a contract as suggested in this paper, the possibility of such interference by outside labor agitators should be distinctly borne in mind, and the form of the contract should be such that it will be well within the cases which the courts have already considered in handing down their decisions.

The following are some of the points decided:

1. That it is within the right of an employer to deal with his employees as an organized body or to refuse to deal with them in any other manner than separately and individually.

2. That it is within the right of all employers to refuse to recognize the union and to enter into contract between employer and employees stipulating that the employees shall not join a union and that no union men shall be employed or shall work on the property.

3. That it is entirely competent in making a contract, to provide that there shall be no strikes or

cessation of work in a body and such a contract will be upheld and protected in law.

4. That when a contract has been entered into between an employer and one or more employees, it is not possible for the employer to secure an injunction against the party to such a contract breaching same, but notwithstanding this, he may secure an injunction against any third person intermeddling in the contract relations so created, and attempting to persuade the employees into committing a breach of the contract. And as is generally known, if the outside labor agitator can be eliminated from the situation, as a usual thing labor troubles are very generally eliminated.

The term "collective bargaining" is too often used to cover a plan which takes from the companies and their employees the opportunity of making a mutually satisfactory bargain, which is certainly not justified from any proper point of view. Collective bargaining between a company and its employees is entirely different from and not to be compared with, union collective bargaining, where demands on the part of the union are generally determined by persons in no way concerned or interested in the property.

As it has been clearly demonstrated that labor unions do not consider themselves bound by the terms of a contract, it would seem extremely unwise to go beyond those absolutely essential points upon which the employer would base his rights to go into court in case of any complication arising. These particular points would be as follows:

First: The time for the beginning and ending of the particular wage agreement, with provisions for renewal and readjustment of the wage from time to time during the continuance of the employment of the employee.

Second: A provision whereby the employee agrees to refrain from engaging in any strike or counseling, aiding, or inducing others to engage in a strike or any cessation of work in a body, but in case of any grievances which cannot be satisfactorily adjusted, that he will leave the service of the company singly and without co-operation of others and in such a manner as not to interfere with the regular operation of the business of the company's cars.

Third: A provision defining the duties which the employee is to discharge in consideration of the wage which the company agrees to pay.

To these provisions, which may be considered applicable to all contracts, particular provisions can be appended defining methods of adjusting grievances by means of arbitration. In all states where public service commissions are in existence, it would seem that this is the particular tribunal to which such grievances should be submitted for arbitration, as the arbitration power which decides the rate of wage of employees should also be the body which has authority over the revenues of the company as well. Other provisions might be added providing for other benefits or obligations on either of the parties, as may suit the particular case. In no event, should any provision be inserted in the contract, providing for the remedy which the other party may have in case of a breach, as the obligations of the contract being agreed upon, the law itself will supply a more satisfactory and adequate remedy than it would be possible to secure by such an agreement or contract.

While Mr. Gruhl is entitled to great credit for the manner in which he has presented the paper prepared by him, it would not be to the best interest of the industry to follow many of the suggestions made.

Economies Are Possible Through Co-operation*

BY F. W. DOOLITTLE

Milwaukee Electric Ry. & Light Co.

OBVIOUSLY, the key note of Mr. Gruhl's remarks is mutuality of interest. Since looking this paper over, I have considered some phases of the practical results obtainable from a recognition of this relation. At least three parties must co-operate, if the electric railway is to live as a self-supporting industry. In the order of their entry into the industry though not necessarily in the order of their importance, for all three are essential, these parties are those who devote their money to the enterprise, those who engage in it as employees and those for whom the service is rendered. Unless the company and the employees co-operate the enterprise must fail, and if they do co-operate a basic wage both to capital and to labor may be had together with some added compensation as a result of the economies effected. Unless the company and the public co-operate, the industry cannot continue; but if they do, the business can be made to compensate the capital already invested at least on such a scale as will induce new capital to come in as needed and the result of this co-operation will be to secure for the public a quantity and quality of service which is commensurate with its needs. Unless the employees and the public co-operate, the enterprise cannot be remunerative, and eventually the employee will have to seek other employment and the public will have no service.

This common interest of the several parties has been pointed out time and again, but has not yet become the rule of practice as generally as it should. Perhaps in no place better than in Cleveland have the advantages of such co-operation been proven.

To be more specific, the possibilities of co-operation between the company and trainmen along the lines of increased speed of cars, economy in the use of power, and attention to matters of safety, resulting in decreased expenditures for injuries and damages and for equipment maintenance, may be made to yield considerable sums, available for increased wages on one hand and decreased operating expenses on the other. The expenditures for these items will in the average property run between 40 and 50 per cent of the operating revenue. Economies effecting a saving of 10 per cent, divided equally between reduction in the cost of service and increase in trainmen's wages may easily net the trainman an amount equal to two to three day's wages per month.

As between the company and the public, such things as staggered hours of closing, the maintenance of a clear track, the skip stop, the use of one-man cars and similar economies may effect lower rates of fare, a decrease in the length of time necessary to complete a journey, increased safety, and considerable betterment both in quantity and quality of service. Co-operation between the employee and the public in matters of safety in operation, speed in loading and

unloading, thoughtfulness and courtesy, permit the employee to effect economies such that his compensation will be on a scale high enough to attract the best men into the business, will serve to make existing fares attract the additional investment sufficient to extend and amplify the service and will yield big dividends in satisfaction, both to the employee and the public.

That these economies, possible as a result of the recognition of the common interests of all parties, are considerable is borne out by the fact that the use of one-man cars will under normal conditions effect savings sufficient either to reduce fares 12 per cent or to increase service 30 per cent or to increase wages over 40 per cent or to increase the amount available for return by about the same amount.

It is likely that the high speed achieved in Cleveland due to clear track, skip stops, and co-operation in loading and unloading, amounts to an annual saving of at least 10 per cent in trainmen's wages, while the use of two-car trains throughout the day, resulting in greater headway, has probably effected an equal saving.

The economies resulting from co-operation between employee and company are relatively of greater importance in the power and maintenance departments than in the transportation department, and have in certain cases where seriously attempted resulted in substantial gains in wages and material reductions in costs.

The matters of taxes, paving requirements, snow removal, free lighting and power and similar items should be made the subject of careful study by companies and municipal authorities. Such portions of these expenses as are fairly a part of the cost of furnishing transportation, should be reflected in the rate of fare, but the car rider and the company are alike interested in seeing that the mere circumstance of convenience should not be made the basis of the appointment of the company as a tax collector to raise funds from a single class of the public, the car rider.

A Memorable Association Banquet

RICHARD McCULLOCH acted as toastmaster at what proved to be one of the most brilliant, instructive and entertaining, as well as best-attended, mid-year banquets enjoyed by the association members in years. Perhaps it was because of the slow yet certain improvement in conditions in the industry which is being sensed, that the members responded so heartily to the sentiments and thoughts expressed by the speakers before this social gathering after a day of serious endeavor. But if there were any executives present who had not yet felt this optimism, they were converted and given a new hope and a new interest in the electric railways as a result of the brilliant talk of Andrew Squire, general counsel of the Cleveland Railway, and of his introduction of Hon. Warren G. Harding, United States Senator from Ohio. The latter's response was an address so meaningful, so sincere, so true to the problems of the electric railways, that it brought the members to their feet several times in admiration and applause.

Mr. McCulloch paid a high compliment, which was heartily indorsed by the members, to John J. Stanley, president of the Cleveland Railway. He said that Mr. Stanley was unique as a street railway president, for

*Abstract of discussion of Mr. Gruhl's paper.

he had given his stockholders a raise in pay at the same time he had increased the wages of the motormen and conductors.

Mr. Squire went back into the very early history of the horse, cable and electric car line developments in Cleveland, and gave some of the background of the work of Tom and Albert Johnson, and of Judge Tayler, in working out the present service-at-cost franchise. He pointed out that the principal defects in the plan had been the absence of reward for initiative and efficiency, and the fixed rate of return on the stock coupled with the requirement to sell stock at par. The inability of the company to secure money at 6 per cent has recently been adjusted by an arbitration to a 7-per cent return with the consent of the City Administration. Mr. Squire said, however, that the real success of the service-at-cost plan was due to the efforts of Mr. Stanley, who has a large sum of his own money invested in the property. He predicted that when Mr. Stanley some day steps out and the property is administered by men having only a salary interest, the success of the service-at-cost plan will rapidly decline.

Mr. Squire then introduced Senator Harding and spoke of him in the highest terms, bringing forth great applause when he mentioned the Senator as Ohio's choice for the Presidential candidacy. Senator Harding spoke reminiscently of the first time he had met Mr. Squire, which had been at the home of the late Mark Hanna, about twenty years ago, when the Senator was a member of the State Assembly and had been interesting himself in the contractual relations between public utilities and municipalities. At this time Mr. Hanna had pointedly remarked: "You are interesting yourself in street railway franchises. What the h—— do you know about them?" The Senator said that he had never been able to answer that question.

The Senator paid the electric railways a high tribute when he said that they had responded to the needs of the country by playing a big part in some of the most important things of the war. He characterized the hauling of workmen at home as being no less important than the transportation of soldiers in France. But with all their effort, the Senator said, he knew of no industry or corporation that had been penalized more severely than the electric railways. He scored the Administration for having doubled the expense account of the street railways without having any disposition apparently to help provide means for meeting it. The key-note of his further address was that there should be a square deal for capital as well as for labor, summing his thoughts up in the statement that an honest investment in an honest public service must be assured an honest return.

The Senator said he doubted the wisdom of public ownership and thought it was merely a scheme for drawing the dollars in the people's pocket from an impersonal treasury. He then illustrated at some length the manner in which organized labor might easily become a powerful capital-producing machine, accruing to its own great advantage, based on the assumption that it was capable of collective undertaking as well as collective bargaining. If it would direct its efforts along this line, he figured that it could own one-ninth of the entire electric railway properties of the country in ten years, supposing that each employee invested one hundred dollars a year. The result of this would be to transform the laboring classes into capitalistic masses. He laid great emphasis on the thought that saving is safer and surer than seizure.

Edgar A. Guest, poet and humorist, then kept the members in laughter with his stories and wit, interspersed with poems which seemed most appropriate and pleased his audience immensely.

The ladies in attendance at the mid-year meeting were entertained under the direction of S. D. Hutchins, of the Westinghouse Traction Brake Company, and his committeemen.

They were served a six o'clock dinner at the Hollenden Hotel, after which they saw Frances Starr in "Tiger, Tiger." They joined the men in dancing after the banquet. There were about fifty ladies in the party.

American Executive Committee Meets

ON JAN. 7 the executive committee of the American Association met in Cleveland, Vice-President Richard McCulloch presiding. Members and guests in attendance included J. G. Barry, W. S. Bartholomew, E. B. Burritt, J. K. Choate, F. R. Coates, W. Caryl Ely, Thomas Finigan, Jr., S. B. Hare, General George H. Harries, B. A. Hegeman, Jr., C. L. Henry, E. R. Hill, P. J. Kealy and J. J. Stanley.

The report of the committee on revision of dues was considered informally, no action being necessary, as the committee at its preceding meeting had taken the steps necessary for the consideration of the report by the association at the Cleveland meeting. The matter of enlarged office space for the association headquarters was next discussed, but it was decided not to do anything along this line for the present. A plan for the printing of a simple catalog of manufacturer members' products and a list of these members was then approved.

On the invitation of the committee B. J. Mullaney, who directs the activities of the Illinois Committee on Public Utility Information, gave an explanation of the work of the organization. It has now been in operation for about nine months and has made itself felt as an agency for disseminating facts regarding the public utility business, outside the State as well as within, and is appreciated by the newspapers generally. Mr. Henry followed with a statement of a similar work which has been undertaken in Indiana, and endorsed the plan heartily. On his motion, the general scheme was approved for wide application with the states as organization units. Barron G. Collier was appointed to represent the association on a joint committee of representatives of interested utilities to foster the plan. Although a definite plan for such a joint committee has not yet been formulated there is reason to believe that it will be in the near future.

The arrangements to be made for the continuation of the Washington office were next discussed, and a sub-committee, consisting of General Harries, Mr. Choate and Mr. Kealy, was appointed to report as to steps to be taken. The committee will present its report at a later meeting. The executive committee also considered the desirability of holding meetings of the association more frequently than twice a year. The preference, however, was for a continuation of the present practice except for the possible placing of the mid-year meeting date a few weeks later than present practice.

The topic of possible changes in the method of conducting the association magazine *Aera*, was then brought up and it was decided to make it a special order for the next meeting.

Essentials of a Labor Contract*

The Author First Outlines the Principles Underlying the Proper Relation of Employer and Employee and Then Sets Forth and Discusses Section by Section a Suggested Labor Contract

By EDWIN GRUHL

Assistant to the President The North American Company,
New York City

The losses incurred by strikes, from which we have not been exempt; the ceaseless discussion of the relation between labor and capital, incident to modern times; and the increasing sensitiveness of capital to social disquiet, all unmistakably suggest that, so far as possible, corporations employing large forces of men should ground their policy on equity, avoid unnecessary antagonism, and consequent hostile legislation. We owe this duty to society, and we owe it to the large interests confided to our charge. It may be impossible to prevent occasional disputes, but when they arise, we should not be found evidently in the wrong, and bearing the stigma of oppressing labor, or of neglecting wise and just rules for its employment and control.—*Report of the Committee on Labor and the Graduated System of Compensation.—American Street Railway Association, 1884.*

IN 1918 forty-six strikes of electric railway employees took place, involving approximately 17,000,000 people, of average duration of six days. During the first eleven months of 1919 seventy-five strikes occurred, involving approximately 40,000,000 people, of average duration of over nine days. The economic loss to communities thus deprived of local transportation service is staggering. In Pittsburgh the Public Defense Association brought suit against the Association of Employees and the receivers of the railway, for damages enumerated at \$2,000,000, for a strike in that community which lasted four days. Losses no less real but concerning which no legal proof was available, probably exceeded this claim in substantial amount.

Nor can it be said that our labor relations are now on the high road to settlement. Despite the very large increases in hourly wage rates which have occurred in the street railway industry, the amounts conceived in some quarters as necessary compensation to provide a minimum standard of comfort are far from being achieved. Testimony introduced before the Federal Electric Railways Commission indicated that a *minimum comfort wage* of \$2,000 per year was necessary. Applying this minimum comfort wage to the total employees in the industry would amount to more in wages than all the gross receipts collected from the public.

CO-OPERATION MUST BE SECURED

Personal service these days comes high. The electric railway industry performs a personal service. Nearly 70 per cent of its cost of operation is paid in wages. Yet the public demand is that street railway fares remain cheap. Increases in fares have in only a few instances brought corresponding increases in revenues. The economic limit of what the industry may charge for its service has been reached in many cases. Under the present scheme of operation, the industry cannot support increased labor cost. Co-operation in fact as well as in theory, instead of antagonism between employer and employee, is necessary to approach the

reasonably necessary return on capital invested and the minimum comfort wage for labor employed.

It is not believed that anyone in the industry resents the idea of real partnership with its employees. Perhaps one of the troubles which has contributed to the disrupted conditions which now confront the industry has been the endeavor by traction managements to carry the entire community burden on their own shoulders. It is far better to share the responsibility for successful public service with employees and with the public authorities.

There are evidences of a change in the temper of the public toward strikes in essential industries. Paralysis of community activity is a terrific penalty to pay for the lack of a comprehensive plan of labor relations. It is too much to expect that the public will tolerate being deprived of the necessities of life because employer and employee cannot come to an understanding. Two alternatives are open. Either employer and employee must agree to an automatic and equitable determination of their differences, through contract and without recourse to the usual methods of industrial warfare, or the iron hand of government will be impressed upon the industry to the possible detriment of both. This has been the gradual trend in the strike-scarred countries of Australasia, where arbitration is in large part made compulsory and definite penalties on employer or individual employee, as the case may be, are meted out for failure to observe the procedure prescribed by statute.

LEGISLATION THAT HINDERS RATHER THAN HELPS

In this country such a movement is already under way. In Wisconsin street railway labor narrowly escaped being deprived of the so-called right to strike, and only an effective legal presentation on the unconstitutionality of such a law prevented its enactment. As it was, legislation was enacted at the 1919 session of the Wisconsin Legislature which created a State Board of Conciliation¹ whose findings when approved are backed by the full plenary power of the Railroad Commission of that State compelling performance upon the part of the employing company. The law does not compel performance upon the part of the employee, yet it may be seriously doubted whether, in the event an award of the Conciliation Board were unsatisfactory to the men, labor counsel would advise a strike against the State, all so-called constitutional rights notwithstanding.

The Commonwealth of Massachusetts at its 1919 special session² had before it "An act to secure con-

¹See ELECTRIC RAILWAY JOURNAL, Vol. 54, No. 20, page 891.

²For text of bill see the issue of this paper for Nov. 8, 1919, page 873. An account of the defeat of the measure will be found in the issue for Dec. 20, page 1014, and editorial comment thereon in the issue for Dec. 27, page 1030.

*A paper read at the mid-year meeting of the American Electric Railway Association, Cleveland, Ohio, Jan. 8, 1920.

tinuity of service on street railways under public control," a bill accompanying a report of the Street Railway Commission. This act makes strikes unlawful and in addition to the usual powers inherent in the State to prevent unlawful acts, provides a unique means of compelling performance upon the part of the employee in the shape of a lock-out from the industry for a period not exceeding one year. Prohibition of strikes is also a feature of the Cummins railroad bill, now advanced toward passage in Congress. The Merchants' Association of New York has submitted to the Chamber of Commerce of the United States for referendum vote a resolution:

That the tenure of service of employees of public service corporations, particularly of transportation corporations, should be regulated by law in such manner that each person who voluntarily elects to enter such employment shall, as a condition of such employment, be legally obligated by contract to continue therein for a specified term, during which term he may not lawfully quit that employment nor the corporation lawfully discharge him from its service, except as provided by such contract; and that such contract should provide adequate penalties for violation of its terms by either party.

Such regulation inevitably carries with it supervision and even definite statutory enactment of terms and conditions which may prove more onerous than helpful to the industry. It is far preferable to accomplish the same commendable purpose by contractual agreement satisfactory to both employer and employee. In the street railway business the question is not one of quarrelling over the lion's share of the products of industry but of mutual self-preservation. The principles of partnership must take the place of class antagonism and both employer and employee must present a united front in the interest of the industry on which their bare interest return and livelihood depend.

PRESENT COLLECTIVE BARGAINING IS ONE-SIDED

Collective bargaining is a loosely used term. Viewed merely as an idea without delineation of details or the methods by which it is practised, it finds a ready acceptance by the great mass of the public. The apparent struggle between a large accumulation of capital operating through a corporation on the one side and "downtrodden workman" on the other, produces sympathy for the latter. This sympathy may come from either a sense of fair play or support of what is believed to be the under-dog. But bargaining in its present-day business sense contemplates the exchange of a definite quantity of goods or personal service for its equivalent value in money. Goods can be measured by length, area, volume, weight or the piece. Personal service can only be qualitatively judged by the hour, day or month. Bargaining for personal service means nothing until both sides to the trade can measure the quantity of service to be given in exchange for the agreed amount of money. The value of the service depends largely upon the value of the product produced thereby. Collective bargaining cannot be practiced in its complete sense until the output of labor is more accurately measured and a relationship is established between wages and selling price of product resulting from the labor for which such wages are paid. To paraphrase a recent writer, the present-day collective labor contract requires definitely what the employer shall pay and requires him to guess as to what he is to get; it specifies definitely

what the employee is to get and permits him to guess what he is to pay.

There is no difference in opinion as to the object to be achieved by a labor contract. It is well stated in the extract from the proceedings of one of the first meetings of this association more than a generation ago, quoted in the foreword of this paper. It is reiterated in the Code of Principles adopted by the association in 1914:

The relation of adequate wages and efficient operation should always be recognized, but electric railways, being public servants regulated by public authorities, should be protected against excessive demands of labor and strikes.

Orderly arbitration rather than strike was also emphasized at the convention of the Amalgamated Association of Street and Electric Railway Employees' Association in 1913. At this meeting the international president stated that the success achieved by that association had been due to the fact that

arbitration was the cornerstone upon which the association had been built. The assurance to the employer and to the public that in cases of dispute between us there will be no strike but that the matters in dispute may be submitted to arbitration has been the means by which you have secured your agreements and through which you have established your splendid organization. You are not only the employees of the corporation but you are also the servants of the public and you must take that fact into consideration. You must remember that the public sentiment is more necessary in your contest that it is to any other class of workers in their contest. . . . To abandon that principle now would be to change the entire policy of your organization and leave you practically without an anchor, and I feel you cannot afford to take that position. It would spell disaster and destruction to this magnificent organization.

This is a commendable unanimity of purpose but in obvious contrast with the record of strikes in the street railway industry.

PARTIES ARE EQUALLY RESPONSIBLE

Labor contracts have in the past taken the form of individual agreements and collective agreements. There may be advantages in the individual agreement as such, but it is not my purpose to discuss them here. It is the collective agreement in which most of the members of this industry are interested.

The first essential underlying any labor contract must be the recognition that both parties to it are in every respect on the basis of absolute equality. There are few people in the industry today who would be unwilling to become party to a collective labor contract if they were assured that the responsibilities rested with equal weight on both parties. True collective bargaining assumes the right of employees to be represented as a group by fellow employees of their own choosing empowered by a majority vote to so represent them.

It is also essential to any workable agreement that there be the greatest freedom of action and willingness by both parties collectively and individually in subscribing to the principles and future course of dealing which are laid down in the labor contract. There can be no coercion of employer by employee or employee by employer. The parties to the contract cannot be expected to fulfill its conditions in the spirit essential to success where such contracts are signed under duress. So-called labor contracts are too often merely treaties of peace readily construed as scraps of paper or records of mutual distrust. It is not believed that there is any disposition on the part of any employer in the industry to make any employee join what he does not want to join, or to prevent him from joining

what he does. Individual freedom to contract is an American birthright.

There also must be no difference as to the definite responsibility of the parties. The complement of collective bargaining is collective responsibility. But this does not mean that the theory of the collective agreement deprives the individual of the right to make an individual contract. Equality of bargaining power brings with it equality of obligations, and it is only right and proper that the collective agreement be personally subscribed to by all existing and incoming employees so there can be no dispute as to its terms and conditions and no question as to the individual responsibility to observe it. If there is to be collective bargaining, the individual must agree to bargain collectively, and individually to adhere to the collective agreement. The individual agreement to bargain collectively sounds like a paradox but has a real existence and is the outgrowth of a studied desire to eliminate the disadvantages of the individual contract and the ordinary collective agreement.

There seems to be a mistaken economic notion that labor contracts are peculiar or different from ordinary contracts used to sell goods, and there is considerable nonsense about an employee binding or selling himself into involuntary servitude. There is, in fact, no difference between contracting to sell productive effort concretely as a finished product or as the labor part of that product in the course of manufacture. Every money consideration is, in fact, convertible into terms of labor, and the individual who complains most against tying himself down definitely to a job has no compunction about contracting for the equivalent of several weeks' compensation in buying a victrola on the installment plan or in renting his house. A contract for personal service is as proper for a street car employee as it is for a baseball player or a prima donna. Nor should there be any greater hesitancy about subscribing definitely to terms, conditions and conduct at the time employment is entered into in this industry than in the case of government officials, policemen and firemen in subscribing to an oath of allegiance. It is human nature to wish to reserve freedom of future action but it is far better that this freedom be restricted by individual choice than by government regulation. Where all the advantages of bargaining collectively have been assured to the individual and full rights of collective action have been established, the individual is not so hampered that he can conscientiously refuse to subscribe individually to a contract that has been secured for him collectively.

Collective bargaining as now practiced seldom carries with it individual sanction. There is the usual delegation with no further credentials than their own assurances, the usual contract when these minds have met and smoked many cigars, the usual slim but well-capped mass meeting, and so forth.

A FEW PREAMBLES ARE STATED

Having brought about a real meeting of minds and placed both parties in the same position of responsibility toward their obligations, we come to the preambles of the contract itself. The purpose of the contract may be thus expressed:³

Whereas, it is agreed by both parties, that they are jointly engaged in performing a public service and it is for their mutual interest and the convenience of the public that there should be continuous and uninterrupted street railway service.

We may also recognize in the preamble the reciprocal rights and obligations that reflect the relation of the parties one to the other and that are the legal considerations under which the agreement is formally entered into. What are these diverse interests which each party must recognize? The right on the part of labor to a wage which is at least a living wage and in addition compensation for added skill and effort; for hours which at least do not undermine health, with the possibility of added hours for diverse interest and recreation; for conditions of employment that will at least minimize the danger of accident and in addition will go as far as possible to make work a pleasure. On the other hand there should be a return at least sufficient to induce capital to flow into the business with a possibility of additional return for efficiency of management; hours of labor at least within those necessary to perform public service with a betterment to hours which will mean the maximum utilization of equipment; working conditions that at least promise satisfaction of service to the public and that will in addition provide successive increments of good-will and increased prosperity.

Whereas, it is agreed by both parties that harmony and co-operation are essential to assure to employees as a minimum requirement a living wage and such restriction of hours and conditions of labor as are essential to health, safety and well-being; to assure to the company as a minimum requirement a return necessary to induce capital into the business and satisfactory and adequate service as required by its duty to the public; and permit the sharing of such additional returns by both parties as may be the product of their efficiency, management and productive effort.

SOME MUTUAL PROVISIONS

With this description of the fundamental objects and the reciprocal rights and obligations of the parties, we come to the provisions of the contract itself, with the separate undertakings as to future conduct. The requirement is that these must be mutual, must be possible of achievement, must be enforceable and not against public policy, and withal, must be definite and simple.

Duration of the contract, if fixed, should be for a long period, but preferably indeterminate.

This agreement shall continue in force for an indeterminate period except that it may be terminated by either party upon giving six months notice to the other party of its intention so to do.

The individual right to quit and the right of the company to discharge are important features which are certain, if not mutual and definite, to lead to grievances and conflict. The individual right to leave at any time carries with it the correlative right to discharge at any time. The individual right to leave after notice or after sufficient time to efficiently fill the place carries with it the reciprocal obligation of discharging only on notice and for cause. If the company is obligated to pay fifteen days' wages upon discharge, the employee ought similarly to waive fifteen days' wages on quitting work.

It is agreed that the company shall not discharge any member of the association from its employment without adequate cause and the association agrees that its membership will not cease their employment with the company at any time except upon giving the notice required to cancel

³This and following clauses are intended merely as illustrative in definite and simple form of the principles of a labor contract embodying the writer's individual views. They do not textually follow present practice although in many cases are not inconsistent with the manifest intent of existing contracts.

this agreement. Individual members may leave upon giving such notice as the company may from time to time require, and the company shall not require any notice longer than that required to efficiently fill the place of the member about to leave.

A BASIS OF WAGES AND RELATION OF WAGES AND RATES

With a contract of indeterminate duration it is desirable that some automatic basis of wage adjustment be provided in the contract applicable to all employees of the company. While definite wage rates may be fixed in the labor contract, a situation may readily arise, as it has in the past two years, where the resulting compensation becomes too low to attract and hold employees in the industry. The contract fails because performance under it has become impossible. The question of how large an increase in wages is justified in labor controversies is now being solved under fairly standard procedure by the device of index numbers. The wage is calibrated with the cost of living. Such a method has been repeatedly used by arbitration boards before the war, was used by the Railroad Administration in determining the increase in railroad wages under government operation, by the War Labor Board in its determinations, and recently by the government in fixing the advances to which coal miners were entitled.

This basis of adjustment in wages is readily possible in competitive industries where no restrictions are placed upon the cost at which the product of the enterprise will be sold. Even here, as has forcibly been brought to the attention of the public in the recent coal wage controversy, there is a direct relation of wages paid to selling price. The provision to regulate wages in accordance with the cost of living may become impossible of performance in an industry where the price of service is not permitted to increase with its cost. The Conciliation Board law of Wisconsin recognizes the necessary relation of rates of charge for service to wages paid. Several of the public service commissions while not definitely empowered to determine wages, have under general arbitration clauses accepted this same responsibility. There is no reason why the wages of labor should not be based on the same equitable considerations as the wages of capital. No comprehensive plan of regulation can succeed which does not take into consideration the fair return to both parties to the labor contract.

Consideration of the reciprocal rights of employees and the company as expressed in the preamble suggests the provision:

The company agrees, when and as provided with the revenues necessary, therefor, to pay to all employees now receiving \$150 per month, or less, increased wages which, when compared with those being paid in 1913, compensate the employees for the increased cost of living, and to adjust wages either upward or downward in the future in order that the same may be kept in substantial accord with the cost of living as measured by the index number during each half yearly period in each calendar year.

The cost of living is the variable component of the total wage paid, and the increase must therefore be based upon that portion of the wage representing the cost of living in 1913.

The first \$50 of monthly compensation shall be increased in the proportion that such index number of the cost of living during the period bears to the same number averaged during the year 1913.

These provisions relate, however, only to the bare standard of subsistence for both employees and the company, and provision is properly made for the divi-

sion of the increased increment of earnings arising from increased productivity.

The company agrees to establish profit-sharing plans by which employees may earn additional compensation by reason of their increased productivity.

Application of these provisions may readily be made to the various occupations employed and a scale of wages for each period ascertained and recorded in memorandum agreements attached to the labor contract. This is particularly convenient where the plan of collective bargaining desired by the employees requires separate representation for each occupation.

The agreements as to hours and working conditions are not so simple. One source of conflict in many labor contracts are the multifarious provisions on relatively unimportant operating details. Obviously, no labor contract applicable to the entire industry and all occupations can be made a manual of operating procedure or a book of rules, particularly where conditions of operation are subject to such frequent change as in the business of local transportation. As a consequence a breach of contract is not only possible but inevitable. What is needed is not a catalog of possible grievances but machinery for settling individual grievances efficiently and promptly.

A street railway must supply service when and as demanded. Its hours of labor are not of its picking and choosing, and to talk in generalities of an eight-hour day, penalties for overtime and days of rest, is to forget that it is an industry in which the whistle never blows. It is a misfortune for both the employee with mealtimes and bedtimes at wholly unorthodox hours and the company with its equipment idle during the greater part of the day, that our communities are continuously getting into worse habits of transportation. But it is a condition of the industry, which both must face with the spirit of accommodation and which can be very much remedied by co-operation.

HOW SHALL GRIEVANCES BE SETTLED?

Just what plan of settling grievances is adopted depends upon the plan of collective bargaining employed. Representatives selected by employees for the purpose of negotiating on wages and form of additional compensation for efficiency can also serve as the medium through which any complaints as to hours and working conditions are taken up with the management. Obviously, the particular form of representation required is a question for the decision of employees. No company desires to interfere in any way with the freedom of approach on any question affecting the employees and the company. It is desirable, however, that the procedure involved shall be organized, routed and dispatched in the same way as the other operating problems which confront the management. The representatives nominated and elected by the employees for different branches of the business may be known as grievance committees, labor adjustment committees, co-operative councils or by any other designation. The procedure by which such employees are chosen is properly made part of the contract as the company has the right to insist that representation is permanent and satisfactory to each individual employee as part of his contract for service. Until such committees are well established and a code of procedure has been worked out, it is undesirable to limit in any way the discussion of problems of wages, gain-sharing, efficiency, hours, continuity of employment, improvement of work-

ing conditions, safety, or discipline and discharge. There is naturally a tendency to regard many of these questions as an exclusive function of the management which can in no way be debated without interfering with the necessary discipline which must accompany efficient service. However, where such committees have been given free scope of action, the general experience has been that self-government has been a success and that employee representation carries with it responsibilities which are not disregarded. One company has worked out a complete code of service violations for its transportation department, with maximum and minimum penalties for specific violations ranging from tardiness to dishonesty. This company has left all appeal on these penalties to a committee of three, two of which are duly elected representatives of the employees of the station, and the third a company representative. A majority vote of this body upon which employees' representation is two-thirds, is binding. There have been few appeals and, strange to say, such as have been made have been decided against the appealing employees. Instances have even occurred where the company representative was out-voted on a recommendation of lightening the penalty of the fellow employee. In this case the operation of discipline has been tied into the operation of a bonus plan according to which the bonus fund is divided among the undisciplined employees.

The most satisfactory adjustment of runs to traffic demands is also a matter upon which co-operative action of committees of employees and company representatives has resulted in a solution of the problem of spread of duty and hours of service which is economical, convenient and mutually satisfactory. By this means a normal distribution of spread of duty has been evolved which conforms to best established practices, but the plan permits of deviation in those exceptional traffic conditions which every street railway occasionally faces.

It is mutually agreed that the employees in each department shall have the right to elect representatives to be known as adjustment committees. Such committees shall generally consist of two members from each group of employees having headquarters at different geographical locations and belonging to the same department, provided that the employees shall have the power to determine the number of members to be represented by each such adjustment committees and to provide for as many of such committees as may be needed for the convenient transaction of business.

Memorandum agreements respecting wages, hours, or working conditions may be executed between employees in any department of the company represented by such committee and the superintendent of such department. Such agreements when approved by the parties hereto shall be in full force and effect as if they were incorporated in this agreement at the time of its execution.

MAKING ARBITRATION COMPULSORY

The possibility of disagreement between the parties carries with it the necessity of an adequate provision to insure arbitration. The usual provision for three arbitrators may be made, one being chosen by each of the parties. Where possible, however, it is desirable that the third arbitrator be definitely determined so that no opportunity for dispute may arise because of failure of the arbitration provision to operate. Where commissions have been established by the state, with definite powers over the rates of fare which the street railway is permitted to charge the public, such questions at least which involve the minimum requirement of the employees for a living wage and of the company for a return necessary to induce capital into the business, should be referred to it. This is particularly

essential where the question in dispute is whether increases in wages can be paid from the returns being earned by the employing company. It is also essential that the scope of arbitration cover not only disputes as to wages, hours and working conditions, but questions as to the interpretation of the agreement itself, thus precluding any possibility of the plea that the issue involved is not arbitrable.

If any dispute between the parties hereto shall arise concerning the interpretation of this agreement or respecting wages, hours or working conditions, which cannot be settled satisfactorily to both parties by negotiation, then it is agreed that such dispute shall be referred to a board of arbitration consisting of three members, one of which shall be chosen by each party and the third shall be The decision of any two of these arbitrators shall be final and binding upon both parties.

AGREEMENT TO ABANDON USUAL METHODS OF INDUSTRIAL WARFARE

The acceptance of arbitration carries with it the abandonment by both parties of the usual methods of industrial warfare. This understanding may be made definite by prohibiting participation in any interruption of public service. This does not involve the individual right to quit employment for which provision has already been made, but concerted or collective action or conspiracy with this end in view.

It is mutually agreed by all the parties that they will not, nor will any of them permit, encourage or take part in any lock-out, strike or other interruption of the public service, but will proceed to settle all causes of difference by arbitration as herein provided.

The foregoing provisions embrace in simple form a complete contract, the undertakings of which are mutual, possible and it is believed enforceable.

ENFORCING THE CONTRACT

The simple reason why many so-called labor contracts fail is that they are too often regarded as mere gentlemen's agreements not enforceable against anybody. They are regarded as establishing at most a usage or customary standard which the employee may disregard without hindrance. We are frequently reminded in defense of such an idea that enforcing specific performance of a contract for personal service is involuntary servitude or slavery. We are also advised, with however less conviction, that the collection of damages for breach of contract is impracticable, and that labor organizations are without liability and in no sense responsible for the acts of their individual membership. The individual members are described as downtrodden, struggling, property-less beings, upon whom the interests of society impose the same disability to make contracts as the law applies to infants and lunatics. The picture is not flattering to the type of independent American employee with whose loyalty and fellowship this industry is familiar and it is surprising that such medieval notions should so often be aired by professional labor counsel. The average employee will be found as honorable in the observance of his plighted word as any other individual. He is not seeking rights without obligations. and while his conception of lawful obligations may be limited, he appreciates fair play and detests a welcher. We may safely expect him to regard voluntary servitude as honorable service.

If need be, a collective agreement properly drawn is enforceable. Individuals may quit work "singly or in concert" if the Clayton act applies, but they cannot conspire to wreck contractual relations. And if collec-

tive bargaining is safeguarded by the individual contract, enforcement is made doubly sure by injunction with its various contempt penalties, by liability for damages of the employees' organization or individuals, or by fines and penalties, either imposed by contract or by general statute, as suggested by the proposed law for street railway employment in Massachusetts.

STRENGTHENING THE LABOR UNION

A general objection is anticipated to the form of contractual relation described. It may be urged that it minimizes the function of employees' organizations through provision for individual contracts, and that it is designed to weaken rather than strengthen the position of the labor union. This is not the intention nor the effect. Under a labor contract such as outlined, it is entirely possible, and in many ways highly desirable, to deal with a union of employees which will assume collectively the responsibilities which under a looser form of association must be shared by the individual employee. Mutual provisions of such an arrangement may provide that the union shall supply the company with all the competent employees which the company may require in order to effectively carry on its business and perform its duties to the public, and that the company shall employ only such applicants for positions as indicate their willingness to become members of the union. It may provide on the one hand that the union take over the training schools being conducted by the company, and assume responsibility for the integrity of its members; on the other hand, that the company obligates itself in consideration of this service partially to reimburse the union for its educational, sickness, accident, death and pension benefit expenses. The liability for damages because of breach of contract, largely assumed by the individual employee in the contract outlined, can be limited through the formation of a corporation under the laws of the state in which the company operates. The corporation may have a sufficiently large authorized issue of shares of capital stock for each of the present employees and for the increase in numbers, and provision may be made that employees when entering employment provided by the union, shall subscribe for one share of stock of relatively large par value, making an initial payment and assuming a future liability for the balance, and that the holder of each share of stock will be entitled to one vote at meetings of the corporation. The stock may then, together with the additional obligation incurred by the employee in becoming a shareholder, be deposited with the company as a guarantee that the employee shareholders of the union will faithfully carry out their contract with the company. In the event that the union should break its contract by concerted cessation of work, the company may sue the union and the union in turn may call its unpaid subscriptions to pay damages in event that such are awarded.

EVOLUTION OF THE UNION

It is probable by gradual process of evolution that the scope of the employees' union will be much extended and its usefulness improved. A successful labor organization, however, is one which will supply all the benefits of co-operative action demanded by employees; which will not discriminate in favor of specific occupations or trades but will occupy the entire industry, giving the benefit of its collective bargain-

ing power to every occupation however humble and small in number; which will provide adequate insurance against sickness and death, including medical attention; which will provide pensions when the age of retirement is reached; which will provide educational facilities to increase the productive capacity of the individual and increase the possibilities of higher returns; which will encourage and advocate rather than hamper the introduction of more efficient methods and labor-saving devices; and which will recognize its responsibility in securing adequate rates of fare and insist on dividing the gains growing from such co-operative effort—an organization whose claim for support to its membership will not be solely one of parading out and settling disputes or maintaining its leadership but will be one in the real interest of the employee.

San Antonio Has an Inbound-Outbound Zone

Adopts Plan for Sixty-Day Trial in Lieu of Six or Seven-Cent Fare Which Court Decision Makes Possible

THE San Antonio Public Service Company put into operation on Sunday, Nov. 30, 1919, a new system of fare collection which it has called a "zone system" in its announcements to the public. Summed up in a word, this plan consists of collecting a 5-cent fare to ride into the business district and another to ride out of it, or two fares across the city.

All but one of the seventeen lines operated are what the Texans call crosstown lines, though more generally known as through routes. They all enter the central business district from an outlying district on one side of the city, pass through this district and extend to another outlying residential section on the opposite side of the city. Until Nov. 30 the fare was 5 cents for a ride of any length, or from one side of the city to another, and transfers were free. Beginning on this date, all principal downtown transfers were abolished and each line was divided into two parts, the ride downtown and the ride uptown, and a 5-cent fare collected for each part of the ride. The zone limit was made the first side, on the inbound trip, or a central zone defined as the "downtown loop." This loop comprises the area within Houston Street, Alamo Plaza, Commerce Street and Main Avenue—six blocks long and three wide. Passengers inbound toward this loop pay as they enter, boarding at the rear of the car and alighting from the front exit. When the car reaches the first side of the loop, however, passengers are required to leave by the rear door. Passengers boarding the car from this point on, in the loop, and all other outbound passengers, get on at the front and leave by the rear door, paying as they leave. Passengers who desire to ride to a point within the loop not reached by the car on which their ride originated are permitted to change to the first car available and no transfer is necessary. Likewise, passengers within the downtown loop may take the first available car to carry them to the point from which they can get the proper outbound car. In this case, also, no transfer is issued and the fare on the outbound car covers the entire ride. This particular part of the scheme makes it possible for passengers to board a car within the loop and ride to the opposite side of the loop or to any point within and get off

without paying any fare. At the end of the first week's trial, the amount of such free riding was becoming noticeable. It is intended, of course, that patrons whose ride originates and terminates within the loop will enter at the front and pay as they leave. A passenger who rides through the city on the same car pays one 5-cent fare when he gets on and another when he gets off.

The installation of this new plan of fare collection met with very little opposition on the part of the public, more than likely because an advertising campaign had been conducted by the company which had brought the people to a fairly general realization that some form of relief was necessary. The fact that this particular plan was recommended by the City Commission, as related below, no doubt had a bearing on the absence of complaint also.

In general the company felt, at the end of the first week, that if anything the fare collection under this plan was being done better than before with the straight pay-enter system. There are only three heavy unloading points on the system at which any great number of fares must be collected at one stop, but none of these has been heavy enough to cause any serious delay or manifestation of impatience on the part of passengers. The near-side stop has been retained for both the pay-enter and pay-leave services.

The primary object of the new zone scheme was of course to increase the revenue, but the result up to the end of the first week was very disappointing in this respect. The two-fare plan apparently had caused many people to refrain from riding, had added a few more patrons to the jitney competitors who now give a slightly longer ride for 5 cents in a few cases than the railway, and had been the cause of the military post commander setting up an army bus service to bring employees into the city, saying that his was necessary in order to hold their services.

EVENTS LEADING UP TO ADOPTION OF ZONE PLAN

The San Antonio company's present zone plan is the outcome of about a year's effort to secure increased revenues, though present indications are that it will not mark the end of this effort. About a year ago the company went before the Commission Council with a petition for a 6-cent fare. A long hearing followed during which the company proposed, as an alternative to a flat increase in fare, a zone plan about the same as the one now being tried. After the hearings had been concluded, the commission reached the decision that the company ought to have relief but that inasmuch as its franchise specified a 5-cent fare, the commission doubted its authority to grant any alteration of the contract. The company made a second petition to the commission and again received recognition of need for relief but no means of providing it.

The railway then brought the matter before the federal court on the ground that strict enforcement of the franchise meant confiscation of property without due process of law, and that the contract had been abrogated years ago when the State Legislature passed the bill providing for half-fares for all school children. In this petition before the court, the company asked for the right to charge a 7-cent fare. After consideration of the case, the court issued an injunction against the city's enforcement of any of the ordinances passed to reinforce the commission's position of holding the com-

pany strictly to the terms of the franchise with its 5-cent fare provision. The court made no reference whatever as to what rate of fare might be charged and apparently left the matter wide open for the company to set up whatever fare it chose.

At this stage of the controversy, the commissioners came to the company and expressed their intention to appeal the decision of the court but offered to make it a friendly case if the company would agree to give a sixty-day trial to the zone plan which is now being operated. Desiring to keep within the graces of the authorities where this was practicable, the company decided to try out the zone plan. If this gave the necessary increase in revenue, to enable the company to earn a reasonable return on the invested capital, then this would be fully as satisfactory as a flat increase to 6 or 7 cents, and there are many advantages in retaining the nickel as the fare unit. If this plan does not accomplish the object in view, it seems likely that a flat fare of 7 cents will be adopted.

Proposed Electrification in South Africa

PLANS have been prepared for the electrification of sections of the South African Railways, involving a total of 860 miles, or a single-track equivalent mileage of 1219. An expenditure of more than \$50,000,000 will be necessary. The three sections involved in the present plan are between Cape Town and Touws River, Komati Poort and Randfontein, and Durban and Bay-side respectively. Direct current at 3,000 volts for the contact system; three-phase, 50-cycle distribution, and regenerative control on some sections, are among the recommendations.

Three types of locomotives are proposed. The freight locomotive would be designed for hauling a 1,200-ton train at a speed of about 40 m.p.h. on the level, or one of 1,800 ton, at 30 m.p.h. Motors would have a capacity of 2,800 hp. on a one-hour rating, a total of four double motors being provided. The locomotive would be in two double-truck sections or units, articulated together, each having two driving axles, a jack-shaft connected through crank and siderod to the driving axle, and a pair of motors geared to the crankshaft. The locomotive is estimated to weigh 134 tons and produce 48,000 lb. tractive effort. The passenger locomotive designs are similar in general construction, except that they provide for gearing for a speed of 55 m.p.h. on the level, for the exertion of a tractive effort of 13,000 lb. at the one-hour rating of the motor, and for an estimated weight of about 81 tons. The third type of locomotive mentioned is a shunting locomotive of about 68 tons weight, to produce a tractive effort of 14,000 lb. at 12 m.p.h. The estimated profit for electrical operation on these divisions amounts to nearly \$4,000,000 annually.

The Imperial Government Rys. of Japan announce a decision to extend the elevated railway system of Tokyo to accommodate both steam railway and local electric railway lines. The extension will connect the steam lines which are now separated by a gap in the city and will also greatly improve the rapid transit system in the capital: It is planned to complete this work within the next two years. This statement will be of interest in supplementing the article by Shiro Sano, appearing in the issue of this paper for July 5, 1919, page 4.

Maintenance of Way for Street Railways*

The Organization and Methods Employed for Carrying on the Work Necessary for Maintaining the Tracks of the Connecticut Company Are Described

By W. R. DUNHAM

Engineer Maintenance of Way The Connecticut Company, New Haven, Conn.

THE lines of the Connecticut Company run along the shore of Long Island Sound for a distance of about 40 miles from Stamford on the west to New Haven on the east. Two of the lines turn inland, one running up the Naugatuck River valley about 30 miles to Waterbury and one running north about 40 miles to Hartford. These two lines

are connected by a line running up the Housatonic River Valley from Stratford to Derby and by another crossing west from a point near Meridan to Waterbury. Of the 680 miles of track 45 per cent is unpaved, 17 per cent is paved with macadam, 8 per cent with a better grade than macadam, while 30 per cent has a so-called permanent pavement on a concrete foundation.

The organization for carrying on this work consists of the maintenance-of-way engineer who reports to the vice-president and general manager, three assistant en-

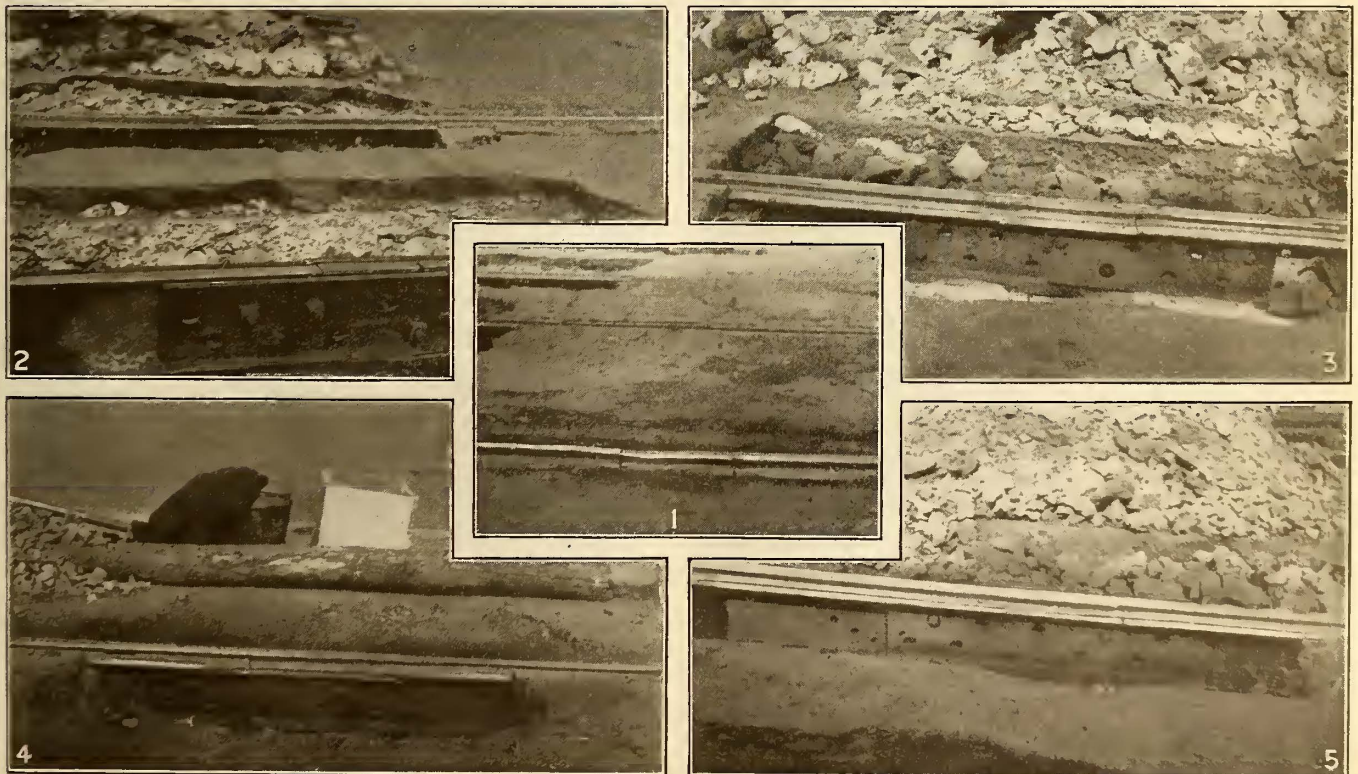


STEEL TIE CONSTRUCTION

gineers, six assistants to take care of surveys, drafting, etc., and a clerk. Each assistant engineer is assigned a definite territory of about 221 miles of track. It is his duty to make estimates and generally supervise all work, to insure that standards are followed and to act as the eyes of the department. He makes frequent inspections of his division, and in company

with the roadmaster visits all the work on his division. There are eleven operating divisions on the property under the jurisdiction of the local managers or superintendents, but the divisions of the assistant engineers combine two or more operating divisions. There are four roadmasters on the property with headquarters at the larger centers, and one general foreman acting as roadmaster. This gives an average of 142 miles of track per roadmaster and 95 miles for the general foreman. Like the assistant engineers the roadmasters' divisions are not necessarily the same as the operating divisions, but in some cases include two or more.

*Abstract of a paper read before the New England Street Railway Club, New Haven, Conn., Dec. 4, 1919.



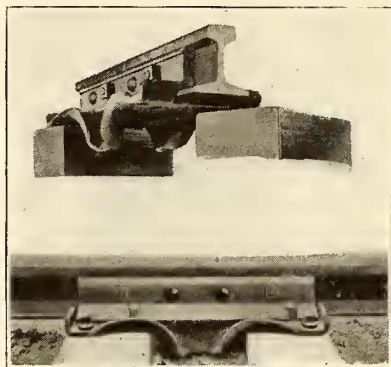
JOINT FAILURE AND METHOD OF RECLAMATION

1—Failure with Dutchman cut in. 2—Ready to weld using old plates. 3—Joint after welding. 4—Joint after grinding. 5—Ready for service.

The percentage of paved and unpaved track per roadmaster is, for Bridgeport, paved, 58 per cent; unpaved, 42 per cent; for New Haven, paved, 78 per cent; unpaved, 22 per cent; for Hartford, paved, 49 per cent; unpaved, 51 per cent; for Meridan, paved, 37 per cent; unpaved, 63 per cent. These figures do not represent the paving conditions in these cities, but the cities are the headquarters of the roadmasters and are used to differentiate the various headquarters.

In addition to the roadmasters, there is a general foreman of welding, who reports directly to the engineer of maintenance of way. This foreman of welding has charge of all the welding work and trains the operators.

He keeps the machines in repair and has general supervision of this work. A foreman in the city section averages about 20 miles of track during the six months from October to March inclusive, one man for each mile of track from April to June inclusive, and one man for each 2½ miles of track from July to September inclusive.



RAIL JOINT PLATE AND ITS APPLICATION

Top—Under side of plate. Bottom—Side view of plate applied

BALLAST IS A VITAL PART IN TRACK CONSTRUCTION

The several parts of construction done by the way department will be considered in the order that they occur on the company's track record chart.

In regard to ballast, there is not much to be said as far as maintenance is concerned, as this more properly belongs under construction work. We use a great deal of broken stone in new construction and make use of old macadam taken up in connection with improved pavements in cities. We also use power-house cinders for adjoining suburban lines.

With a typical section of track construction, for the Hartford division, due to the character of the soil we first lay a concrete trough, the bottom of which slopes from the sides to the center. A ballast of broken stone is laid on this and at low points it is drained by tile pipe into city manholes. At the sides the concrete is built up so as to make side walls. We thus have a concrete trough filled with broken stone. On this ballast we lay our standard ties and rails. A 6-in. concrete foundation is then laid on top of the ties and ballast for the pavement. The soil is a brick clay on the Hartford division and during the winter and spring months this works up through telford or broken stone ballast laid without concrete. The above described method was developed to meet these conditions and has worked very well.

TIE CONSTRUCTION IS SIMILAR TO GENERAL PRACTICE

We use ties 6 in. x 8 in. x 8 ft. long, spaced 24 in. center to center and beginning 12 in. from the rail ends. On single tracks the ends of the cross ties are lined true on the right-hand side going either north or east. Where one end of the tie only is exposed as in side locations on highways, the exposed ends are lined true, while

with double tracks the outside ends of ties are lined true. We are not using creosoted ties on our lines, although personally I favor their use on suburban tracks, either unfilled or back-filled, and in macadam or similar pavement provided there is little likelihood of the tracks being rebuilt for permanent pavement before the estimated life of the tie expires.

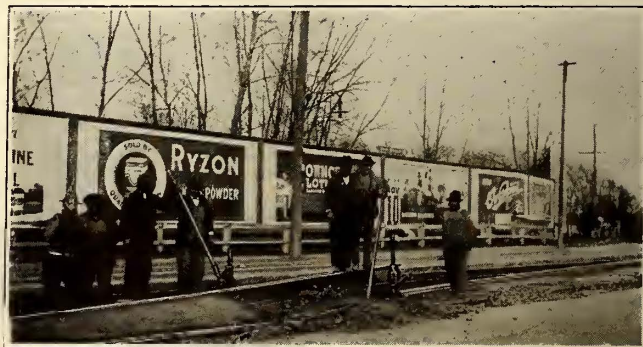
In permanent pavement we have practically standardized on steel ties as furnished by the International Steel Tie Company. An accompanying illustration shows this type of construction as used on our lines. These ties are spaced 6 ft. on centers, the joint ties being placed directly under the joints. The bearing surface of these ties under the rails is 3 ft., so that there is a space of about 3 ft. between bearings. As the bottom two-thirds of the rail is imbedded in concrete, this helps to support the rail, and results so far have been very satisfactory with no perceptible rail movement.

The use of steel ties cuts down the amount of grading, both in width and depth, so that the higher first cost of steel ties over wood ties is decreased by the smaller number used and the lower cost of excavation. By welding the face of the rails to the ties, the cost of crossbonds, labor and material can be eliminated, thus further reducing the cost. The labor cost of laying this type of track is less also as the ballast can be spread to a level surface at the tie base grade and the ties can be laid directly upon it, obviating any appreciable lift for surfacing except for final adjustment. There are also one-third fewer rail fastenings per foot of track for steel ties and practically no gaging.

"FIFTY-SEVEN VARIETIES" OF RAILS USED

Our standard T-rails are 5-in. 80-lb. A.S.C.E. section for all work except where it is contemplated that a permanent pavement may be installed, for which this rail will not be adapted. For permanent pavement we use 7-in. 95-lb. or 6-in. 100-lb. T-rails, A.R.A. Type A, except in one city where by original grant a grooved girder rail must be used. In this city 9-in. 125-lb. Boston grooved girder rail is the standard. We specify Bessemer process steel for T-rails and A.E.R.A. standard open-hearth high-grade carbon for grooved girder rails.

As our lines are made up of a combination of those of former individual companies, we have, in our tracks



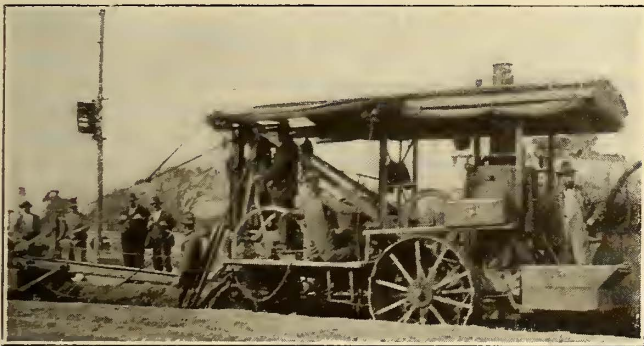
JACKING OUT TRACK

fifty-seven different rail sections not including guard sections in special work. Since 1914 we have gone into the reclamation of old rails rather extensively, and during the past five years 4776 tons of old rails have been reclaimed by electric welding and grinding; 6520 tons of new rails have been used in this renewal. This represents a net saving in cash of \$200,000 based on pre-war prices for new rails and scrap. By the use of this rail

about sixty freight cars per year were released for other uses. In addition, the cost of handling new and scrap rails was avoided, thereby saving labor. Practically all of this rail has seen from fifteen to twenty years of service. From present appearances, the rails are good for as long a service as they have already given. The average annual cost for maintenance of this track has been from 1.7 cents to 3.2 cents per foot. This maintenance consists of building up with the electric welder and then grinding.

RAIL WELDING HAS PROVED VERY USEFUL

Our standard joints for both high and low T-rails are the continuous joints, 24 in. long, drilled "5-4-5" for four bolts. We use 1-in. bolts for high T-sections and $\frac{3}{4}$ -in. bolts for low T-sections. All bolts have "O.K." nuts which consist of a patented nut and nut lock combined. For grooved girder rails we use twelve-hole channel bars with 1-in. bolts and "O.K." nuts. From 1908 to 1911, inclusive, we welded 15,000 joints in various sections of rails by the Lorain process. These were mostly high T and girder rails, and this welding has been a success. Some of the welded sections have had

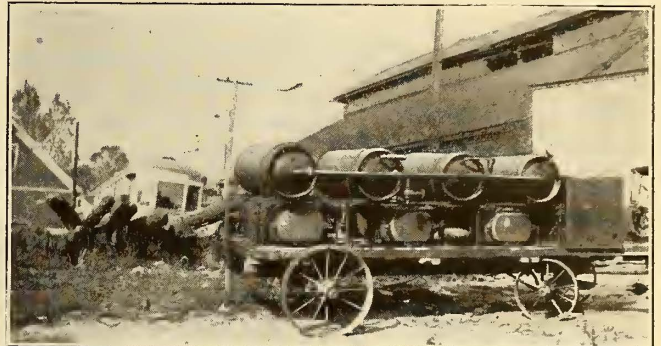


widths of base, as this enables us to carry but one standard plate in stock. Our standard plate will fit many of our rail sections and there is no necessity for right and left plates.

BENT JOINTS MAY DEVELOP SERIOUS TRACK CONDITIONS

A great many joints, especially in suburban tracks, become surface bent. These bends may not extend more than a few inches back from the rail end, but if not taken care of properly, they will develop a serious track condition. These bends are caused by the use of joint plates of too light a section, loose bolts, or general lack of attention. Our first step in remedying this condition is to install an Abbott plate under the joint. The joint ties are then well tamped, so that the surface bend may be rolled out by traffic. The Abbott plate is a piece of flat steel bulldozed in the center for stiffness. For angle bar joints the ends are turned up to form a buttress for the angles to rest against. Accompanying illustrations show this joint plate and its application.

In tracks where the surface bends are quite long we raise the whole joint with a vertical rail bender after



TOOLS USED IN TRACK CONSTRUCTION—AT LEFT, KEYSTONE DIGGER; AT RIGHT, THE TAMPER OUTFIT

to be removed, due to municipal paving work, but the percentage of actual joint failures has been low. Most of the rail welded had been in service fifteen years or more under city traffic before the welding was done. Accompanying illustrations show some joint failures and the methods of reclamation we employ. During the past year we have welded 1930 joints and have had no absolute breaks. There have been instances of fracture in one of the four seams, but these have been infrequent, and were due more to inexperience of the operators and ourselves with the process.

On practically all our new work and on extensive retieing, we tilt our rails toward the track center, 1 to 20. We believe this reduces our pavement breakage along the rails, as the resultant of the load passes through the rail parallel with its vertical axis and nearly coincident with it. This removes the tendency of the rail to overturn and relieves the adjacent pavement from the lateral crushing effect. The load is also applied on the center of the railhead on new rail and has the same effect as on the proposed curved railhead. On old rail which has become beveled to the taper of the car wheel, tilting transfers the wear from the gage line to the outer edge of the head, gradually moving toward the center. When the center is reached, the whole rail head tends to wear equally.

The type of tie plate which we use for tilting is made under the Lundie patent. We originated this to accommodate the large number of rail sections with varying

installing the Abbott plate and tightening the bolts. The joint ties are tamped hard, but the shoulder ties are left a trifle slack. In addition to this, we have in some instances welded the angle bars to the rail and to the Abbott plate.

Many joint failures are due to loose bolts, and many loose bolts are caused by the stretching of the bolt beyond its elastic limit when the joint is first made. In order to determine the ease with which bolts may be stretched when installed, we made some tests in 1913 on $\frac{3}{4}$ -in., $\frac{7}{8}$ -in. and 1-in. bolts. We found that in some instances a stretch as high as 80,000 lb. per square inch on the bolts was being placed with a 38-in. wrench. With a $\frac{3}{4}$ -in. bolt we found that at 63,000 lb. per square inch, the bolt had stretched $\frac{3}{32}$ -in.

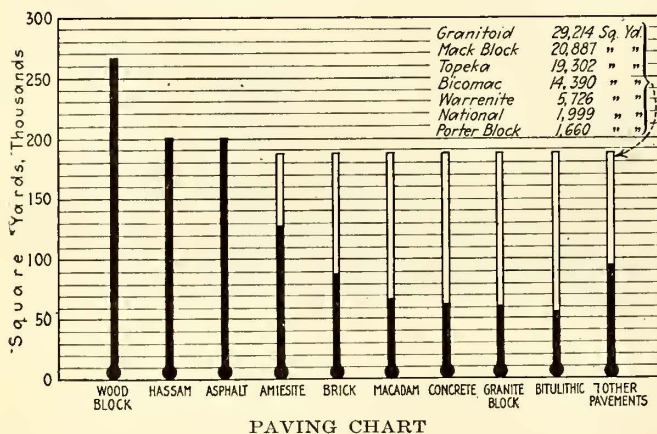
OFFICE RECORDS ENABLE PIECES IN THE FIELD TO BE IDENTIFIED WITH BLUEPRINTS

A proper record of special work is one of the important considerations in special work maintenance. In order to identify the pieces in the field with the blueprints in the office, we have a diagram of each operating division and the diagrams for each of the divisions are bound in book form and are brought up to date the first of every year. This shows every special track-work layout on the system and each layout has its own number. All plans of layouts drawn in the office and every manufacturer's plan has a circle in the top right-hand corner with the name of the division in the upper

half, and the location number in the lower half of this circle. These plans are kept in envelopes with the divisions, street names and location numbers on them, and are filed in drawers in a cabinet, one or more drawers to a division.

There are about 1350 special work layouts on the system, or an average of two per mile of track. Special track work is ordered to our own specifications, which are made after a careful study and conferences with the different manufacturers. We have three types in use, manganese or hardened steel centers, manganese or hardened steel inserts and built-up construction. The selection of the type for any particular location is based upon the traffic conditions. In the fall of each year the roadmasters and assistant engineers inspect the various locations and make reports as to requirements. The reports are checked up by personal inspection of some of the locations by the engineer of maintenance of way, and the material is ordered for the locations which in his judgment are in the worst condition. Orders for the materials necessary for repairs of other locations are held in abeyance until the season opens, and are placed during the season.

Our standard steam-road crossings are manganese spines continued through the steam lines. The main



PAVING CHART

guard and easer rails consist of one double web casting, to which trolley rails are bolted with heavy steel angle bars bent to the angle of the crossing. The trolley line has guard rails through the crossing with rolled steel separator blocks.

In addition to the renewal of pieces, we use the electric welders for building up special-work centers, abutting rail ends, etc. Welding manganese centers is not very successful, however, and about 50 per cent of the welds last only for a short time. The work done on these centers is more in the nature of a temporary patch to last until a new piece can be installed. When welding center plates which have become loose, we find it more satisfactory to take the loose plates out, weld them and then replace them, as the heat generated in welding tends to loosen the plate if it is tightened up first and then welded.

LABOR-SAVING DEVICES KEEP COST DOWN

We have gone into labor-saving devices to quite an extent and have found their use a great benefit. For example, an accompanying illustration shows the method employed in breaking out 9-in. 106-lb. girder rail, electrically welded, with two 15-ton Barrett jacks. Six men and a foreman performed this work. The track was paved with macadam and this gang broke out about 500

ft. of single track per day, with no excavation except jack holes. After the rails are removed, they are taken from the job by a crane car, which has a maximum capacity of 1½ tons at the end of the boom when extended at right angles with the track. The reach is 27 ft. and the maximum lifting capacity is 3 tons. We have four crane cars of this type.

The Keystone digger shown in another illustration is at work in an excavation. With this machine we have excavated at a cost as low as 7 cents per cubic yard. This was an extreme condition perhaps, but in general the machine cut our cost of excavation about 67 per cent. When not in use on our own work this machine is rented out and the money received for rental, so far, is nearly equal to the original cost of the machine. In figuring the cost above, interest on the investment, depreciation and annual repairs are included. Other labor-saving machines used are a small "Rex" mixer and a "Thew" electric shovel. On one job where we used the Thew shovel we were, on account of a breakdown, obliged to do some excavation by hand and so had a very good basis for comparison. We found that with the shovel our excavations cost 71 per cent less than by hand. We also found that due to short hauls our service in hauling away material cost 22 per cent less with the shovel, as we could load so much faster.

We have twelve pneumatic tie tampers on our lines, which reduce the cost of tamping about 25 per cent over hand tamping and also give us a better-tamped track. The illustration of one of these machines shows four tanks and three compressors used for two guns. All of the electrical equipment on these machines is standard for our cars. This was arranged so that they would be interchangeable with our standard car stock.

In addition to using the tampers for tamping ties, we use them for breaking out concrete by the use of jack-hammers and drills. A drill will bore a 1¼-in. hole through 6 in. of concrete in from forty-five seconds to one minute. We drill a set of holes and sledge or jack the concrete into small sections. Tie tampers are also used for cleaning cement grout from salvaged paving block. Two men with one machine clean from 250 to 300 blocks an hour, which is much quicker than the work can be done by hand.

PAVING CHART SHOWS AMOUNTS OF DIFFERENT PAVEMENTS LAID

The Connecticut statutes provide that the railways must keep in repair so much of the highways as lie between the rails and two feet on each side of the outer rail. This has always been interpreted to mean entire renewal of pavement when the municipalities renew the street surface. This adds a great burden to the company, not only in the cost of work but in affording a good roadway for their competitors at no expense to them. The municipalities also determine the character of the pavement, although in recent years in many instances, a city has laid one type while the company has laid what it thought was one more suitable for its construction. The form of chart given herewith shows the different amounts of pavements laid. For the past two years we have been laying concrete where we could and have over 200,000 sq.yd. of this particular kind. We have also laid about 260,000 sq.yd. of wood block, but it is not a satisfactory type with us.

As already stated, our lines follow the coast for about 40 miles and then turn at right angles and run inland.

Thus our shore lines cross many rivers and smaller streams, while the lines in the interior cross their tributaries. We have 309 bridges on our system, or an average of a bridge for every 2.2 miles. Some of these are under the jurisdiction of municipalities, while a number are on our own property. On the municipal bridges we pay from one-quarter to one-third of the cost of a new bridge, and about the same proportion for any repairs that become necessary unless the repairs are necessary for our loads alone, in which case we bear the entire cost.

In order to maintain a proper record of these, we number all bridges. The first two figures used indicate the division and the remaining figures are the bridge number, thus beginning at the west end of the system. "Bridge No. 101" indicates the first bridge on the Stamford division, and "Bridge No. 421" indicates the twenty-first bridge on the New Haven division. The record kept in the office shows diagrammatically the location of all bridges and by the color the limiting loads. This record also lists the bridges by numbers with the locations and local names. This is brought up to date the first of each year and a copy is furnished the general manager for his information. In addition to this diagram a loose-leaf system gives detailed information as to the span or spans, the limiting loads, and what part of the structure is the limiting feature.

Motor Carriers on California Highways

In a Comprehensive Report the Commission Summarizes Motor Transport Situation to Date—700 Companies Operate Passenger Bus Systems in State

ELECTRIC lines which are engaged in giving trolley express and freight service are in competition with the very alert motor-truck lines. These in some parts of the country have developed remarkably during the past few years. A recent report of the California Highway Commission states that "at least 95 per cent of the traffic over the rural highways of the state is motor driven." In the last three years in Fresno County the number of passenger motor cars using the state highway has multiplied by six and in the same time the number of motor trucks multiplied by twenty. Meanwhile the number of two- and four-horse wagons decreased by one-half.

Of course most of these are privately-owned vehicles, but there are about 700 companies operating passenger-bus systems in the State. The lengths of the runs range up to the 500-mile trip between San Francisco and Los Angeles with a one-night stopover en route. When a check was made recently there were 136 principal freight and express motor companies in the State, employing 196 trucks which ranged in capacity up to 10 tons (with trailer). Two of these runs are 110 and 138 miles in length respectively.

Business for the motor-truck freight carriers has been built up even in territories served by rail on the theory that the motor carrier can give quicker service with fewer handlings than any other means of shipment. This is an important consideration in getting perishable commodities, such as cream, eggs, etc., out of the hot central valleys of the State and to the commercial centers. In this service the motor carriers can eco-

nomically call for and deliver with a single handling and seem to have kept the cost of service low enough to offer a profitable rate below the express rate. Some companies make a rate distinction between classes of freight so that perishables will be delivered, at a higher rate, within twenty-four hours, while freight which the shipper is willing to have stored a day or two until full loads for through trucks are assembled is hauled for less.

An angle of the taxation question which has not yet been worked out is the entire lack of uniformity in motor-carrier licenses granted by small towns. The "prohibitive" rate imposed by certain municipalities (although no rate at all is in force in others) is a factor that has discouraged capital from entering the interurban motor carrier business. Despite this there has been a good deal of financing in the motor carrier business that has not turned out profitably. For example, in three years more than fifty motor-truck companies have failed financially or have given up the business of freight handling on the run between San Francisco and San José. This would seem to be a favored location for such business because the highway running between these two cities, which are 50 miles apart, is entirely hard surfaced.

While there are many angles to this failure of freight truck lines, one cause that stands out prominently is poor judgment in selecting equipment. Many operators have made the fatal mistake of placing more importance on first cost than on economy of maintenance and operation. This is the rock on which many ventures wreck and the difficulty appears almost as often in the passenger as in the freight business. Ordinarily a rebuilt passenger car has not been found to succeed in handling freight and the converse is equally true, *i.e.*, the rebuilt freight truck usually cannot be converted into a successful passenger car.

There have been some notable successes, however, in both freight and the passenger motor carriers. The Peninsular Rapid Transit Company, for example, operates eighteen buses between San Francisco and Palo Alto, a 33-mile run on which they give a twenty-minute service and receive what is comparatively continuous patronage throughout the day. This company built up its own car bodies on 2-ton White chassis. The cars are entirely enclosed; they seat twenty-six passengers. The these buses runs on an average of 270 miles per day.

Corrugated Cardboard Spacers Between Wood Paving Blocks

ACCORDING to a recent issue of the *Canadian Engineer*, St. Thomas, Ont., is the first Canadian city to use spacers of corrugated cardboard between rows of wood paving blocks. These spacers are being employed in work now being done by the municipal railway. Rows of blocks are separated from each other by strips of corrugated paper, 1½ in. wide by $\frac{3}{16}$ in. thick. The joints so formed are then filled to about one-half their depth with coal tar pitch and the remainder of the joint is swept full of clean sand. Along the web of the rail a strip of felt is laid. Paving pitch is poured around this so as to waterproof the pavement from rail to rail. The blocks are laid on pitch paint on the concrete base. The spacer of corrugated cardboard is said to have been used for the first time in June, 1919, in Bridgeport, Conn., in the track allowance of the Connecticut Company.

A Bright Spot in the Industry

Application of Principles of Service Betterment and Full Publicity Wins Increases in Railway, Gas and Electricity Rates in Record Time Without a Dissenting Voice

THINGS have been happening and happening fast in Charleston, S. C., within the last thirty days. And these events have been so favorable to the Charleston Consolidated Railway & Lighting Company, of which Philip H. Gadsden is president, that his friends will want to know "how he did it." But the facts will bear out the statement that there was nothing about the circumstances savoring of "putting something over," or of securing concessions which were not entirely merited or without the full approval and consent of all concerned. The instance does mark the result of a full capitalization upon the products of the hearings of the Federal Electric Railways Commission in an effective and constructive advertising campaign, coupled with substantial improvements in service.

Imagine the state of affairs—quite without historical precedent—whereby the public, organized labor, employees, newspapers and company are all agreed in an effort to bring about increased rates for the local utility company, and you have a mental picture of the situation in Charleston. The principal events followed upon each other's heels about like this:

On Oct. 14 Mr. Gadsden appeared before the local Council and presented some of the broad aspects of the conditions in the electric railway and other public service industries. He was followed by B. A. Hagood, general counsel for the company, who informed the Council of the local utility situation and asked for increases in the rates for street car, electric lighting and gas services. On Oct. 23 the Council had a public hearing and there was not a voice raised in dissent of the proposed increase in rates. On Oct. 28 the Council met, suspended the rules and put the proposed measure granting increased rates through the first, second and third readings all in one evening, thereby saving four weeks time over the ordinary procedure in order to meet the company's contention that, to be effective, the relief sought must be prompt. At its next meeting, on Nov. 11, the Council ratified its action taken at the previous meeting and made the increased rates effective at once. The next morning the company had in force a 15-cent increase in the gas rate, a continuation of the 10-cent maximum for electricity but with a readjustment of the blocks, and a 7-cent cash fare with four tickets for 25 cents in lieu of a 5-cent fare.

A number of things had a bearing on the favorable outcome of the Charleston company's application for relief from the greatly increased operating costs. In the first place, Charleston has the unique distinction of never having had a strike on its street car system, and this fact has probably inspired a good degree of confidence in the management in the discharge of its obligation to furnish dependable, un-

interrupted service. In the second place, the company is largely owned by local people and President Gadsden has been a resident of the city practically all his life and knows and is known to everybody. Again, the momentum of the granting of increases in other cities all over the country no doubt helped. The State Railroad Commission has no jurisdiction over local transportation, so that there was no element of divided authority or doubt of authority in the case. But the main two instrumentalities in carrying through the favorable action were the improvements in service and the education of the community in the facts. However, Mr. Gadsden is not one of those who would hold up the success attained in Charleston as an example which might be applied with equal success everywhere, but he does find pleasure in the thought that here is one case where the

doctrine of service and education which has been so generally preached, has been very effective.

SERVICE BETTERMENT

Preparation for the application for increased rates began many months ago. Improvements were needed and it was decided that the company should demonstrate, in advance of the application, that it was determined to give the public adequate and satisfactory service. Accordingly, improvements were begun which will require an expenditure of \$1,800,000. These comprised the purchase of eight new safety cars and a number of large center-entrance double-truck cars for use on the long line to the Charleston Navy Yard, extensive improvements at the power house which were needed for both the lighting and railway services, the building of a new railway substation, new city track, etc. Most of these improvements were completed and in operation, or well along toward completion when application for increased rates was made.

How these improvements were financed is a question which has probably arisen in the mind of the reader.

Charleston Consolidated Railway, Gas & Electric Co.

Charleston, S. C., Nov. 12, 1919.

To the Mayor and Aldermen of the City of Charleston.

Gentlemen:

We wish to express our sincere appreciation of the prompt response by the City Council to our application for increased rates.

We fully realize that the community has a right to expect in return, uninterrupted and efficient service.

We believe the support of the public has been due in large measure to the publicity given to the financial affairs of the company. We hope to retain this good-will for the future by continuing the policy of keeping the community informed of the effect upon our financial condition of the increased rates which have just been granted.

Yours very truly,

P. H. GADSDEN,
President.

Statement from the Hearing in Washington on July 22, 1919, Before the FEDERAL ELECTRIC RAILWAY COMMISSION Appointed By the President to Make Recommendations for Relief in the Electric Railways Situation.

I think that the business judgment of this country is that the situation of the street railways of the country is critical and one that must receive attention as soon as possible on account of the enormous values involved. I think it is one of the most important matters before the country. From a financial point of view it seems the most acute internal problem that we have to face.

HOMER F. FERGUSON,
President of the Chamber of Commerce of the United States.

ONE OF THE ADVERTISEMENTS RUN IN CHARLESTON NEWSPAPERS TO MAKE THE MOST OF THE MATTER PRESENTED BEFORE THE FEDERAL ELECTRIC RAILWAYS COMMISSION

In this matter, too, the company was in a somewhat fortunate position. Among many other enormously costly projects carried out during the war, was the construction of a \$20,000,000 port terminal near Charleston. A large block of power was made and the government wanted the Charleston power company to supply it. To do this entailed an investment of about \$700,000 in new power equipment and the company could not see its way clear to finance it. So the War Department purchased necessary materials and equipment up to \$350,000, and the War Finance Corporation supplied the other \$350,000. The company financed the additional improvements amounting to about \$1,000,000.

Going back to the time at which the company decided that it must seek relief through an application for higher rates, the losses for the entire company were running about \$25,000 a month on the average. Nevertheless, the members of Local 610, Amalgamated Association, wanted a substantial increase in their scale although their contract did not expire until Nov. 16, 1919.

With the help of W. D. Mahon they were induced to live up to their contract and were advised of the company's absolute inability to pay a higher wage until it could secure greater revenue from its service. This induced the trainmen to work for the proposition and

they gained the support of the local labor federation so that when the matter finally came before the City Council, labor introduced a resolution asking the aldermen to support the company's petition. To complete this phase of the story, it should be said that the company has just signed a new contract at the expiration of the old one, granting the men 10 cents an hour increase in pay, time and one-half for overtime over nine hours and for work on five legal holidays, and fourteen days vacation a year with pay. The terms of this contract were reviewed in the issue of this paper for Nov. 15, 1919, page 951.

WASHINGTON HEARINGS WERE CAPITALIZED AT CHARLESTON

The effective use made of the material emanating from the hearings of the Federal Commission, and the publicity campaign covering the local situation which followed this, may probably be credited with having had the most far-reaching results in educating the community to the justice of the company's application for increased revenue. Beginning on Aug. 4, a half-page display advertisement presenting a statement made before the Federal Commission was run in the evening paper and the following day in the two morning papers. This same scheme was followed throughout the campaign, thus giving equal space to all papers and presenting the same advertisement in all papers. The full series of advertisements devoted to statements before the commission, all of which were prepared with a standard heading as seen in the accompanying illustrations, included eleven insertions in each of the three papers and ending with the issue of Sept. 6. These advertisements presented statements by the Committee of One Hundred, by Edward N. Hurley, A. Merritt Taylor, Francis H. Sisson, Lucius S. Storrs, Homer F. Ferguson, Thomas A. Edison, Dr. Thomas Conway, Jr., and Frank J. Sprague.

These advertisements having paved the way for a presentation of home conditions, because the people were now well aware that the condition was general in character and the consequence of the war and not of the local management, they were followed by a series of twenty-one display advertisements in each paper covering local conditions, beginning with the issue of Sept.

Learn the Truth!

COMPARATIVE STATEMENT OF REVENUES AND EXPENSES RAILWAY, GAS AND ELECTRIC DIVISIONS 1914-1919

	1914	1919	
Gross Operating Revenue (per car mile)	20,826c	29,942c	44.67 p.c. Increase
Total Operating Expenses (per car mile)	13,847c	29,962c	116.38 p.c. Increase
Net Operating Revenue (per car mile)	6,979c	11,111c	157.79% DECREASE
GAS			
Gross Operating Revenue (per 1,000 c. ft.)	\$1,082.4	\$1,092.9	.97 p.c. Increase
Total Operating Expenses (per 1,000 c. ft.)	631.4	1,842.3	65.27 p.c. Increase
Net Operating Revenue (per 1,000 c. ft.)	\$ 451.0	\$ 250.6	89.05% DECREASE
ELECTRIC			
Gross Operating Revenue (per K.W.H.)	5,076c	4,174c	17.76% DECREASE
Total Operating Expenses (per K.W.H.)	2,773c	3,848c	38.76 p.c. Increase
Net Operating Revenue (per K.W.H.)	2,303c	326c	85.84% DECREASE

The Divisional figures shown in this statement, when combined, give the net result of this Company's operations, exclusive of interest on the investment and depreciation.

During the past five years our Revenues have increased but 14.7 OF 1 PER CENT, while our Operating Expenses have increased 38.22 PER CENT, resulting in a DECREASE OF 90.71% PER CENT IN OUR NET OPERATING REVENUES.

Charleston Consolidated Ry. & Ltg. Co.

Learn the Truth!

Comparative Statement of Receipts and Expenses Per Car Mile in cents

	1914	9 Months 1919	Per Cent Increase
Gross Operating Revenue	20,826	29,942	44.67
Operating Expenses	13,847	29,962	116.38
Maintenance (Per Car Mile)	2,282	2,282	0
Maintenance (Per Mile)	1,000	1,000	0
Depreciation (Per Mile)	1,282	1,282	0
Operating Expenses (Per Mile)	12,565	18,680	48.55
Net Operating Revenue	7,281	11,980	64.17
Total Operating Expenses	23,847	29,962	116.38
NET OPERATING REVENUE	6,781	119	101.75

This statement shows that the operating profit of this Company per car mile in 1914 was 67.81 cents, whereas for the 7 months of 1919 on each mile operated we lost .119 cents, or a reduction in operating revenue of 44.67 per cent, our operating expenses increased 116.38 per cent.

IN OTHER WORDS, FOR EVERY \$100 OF INCREASED REVENUE WE HAD TO EXPEND \$2.61

A Fair Fare Is All We Ask

Charleston Consolidated Ry. & Lt. Co.

Learn the Truth!

That salaries and wages have contributed enormously to the present critical condition in which this Company finds itself is shown by the following comparative statement:

Gross Revenue and Salaries and Wages of Railway, Gas and Electric Divisions 9 months ending September 30, 1914-1919

	1914	1919	PER CENT INCREASE
GROSS REVENUE	675,123.74	1,141,337.00	69.06
SALARIES PAID	57,367.32	111,442.93	94.26
WAGES PAID	159,870.94	466,293.63	191.67
TOTAL Salaries and Wages Paid	217,238.06	577,736.56	165.85

From this statement it will be seen that while our REVENUES for this period INCREASED 69.06 per cent, our EXPENDITURES for salaries and wages INCREASED 165.85 per cent. In other words, for every dollar of INCREASED revenue received, our EXPENDITURE for salaries and wages INCREASED \$2.60.

This statement also shows that this Company paid to its employees as salaries and wages during 9 months of 1914, 32.1% of every dollar received, while for the 9 months of 1919 the employees received 54.62% of every dollar of revenue.

At the present rate the annual amount of salaries and wages paid by this Company approximates \$750,000.00, practically all of which is spent in the City of Charleston.

Charleston Consolidated Ry. & Ltg. Co.

NOTICE TO THE PUBLIC

City Council Has Granted an Increase in Street Car Fares, within City limits and the Increase will be effective

Thursday, November 13, 1919

Cash Fare -- 7c or 4 TICKETS 25c

Tickets can be purchased from the

CONDUCTORS ON CARS

at MAIN OFFICE, 141 Meeting Street

Robertson Cigar Company, 13 Broad Street

De Lorme Drug Store, King and Calhoun Streets

We ask the co-operation of the public in having as near as possible the exact fare ready, so as to facilitate the operation of the cars.

THE INCREASED FARE DOES NOT AFFECT THE
COMMUTATION SUBURBAN TICKETS

Charleston Consolidated Railway & Lighting Co

THE CLIMAX OF THE STORY

20 and ending with that of Nov. 6, and all appearing under the caption, "Learn the Truth."

The contents of these advertisements may be summarized as follows:

1. Announcement that the company would present statements of facts in the papers to show that it was operating at a serious financial loss and the causes of this condition.

2. Presented statistics showing the number of companies that had been forced into receivership; the numbers dismantled, abandoned, etc.

3 to 6. Presented figures pertaining to the railway costs and earnings.

7. Directed attention of the public to the fact that the railway was not the only part of the company's business suffering from high operating cost and stated that the receipts in the gas and electric division also were inadequate to meet cost of operation.

8 and 9. Presented figures relative to costs and earnings of the gas department.

10. Asked the question "Are costs higher?" and then presented a long list of comparative figures of costs in 1914 and 1919, for various materials and supplies, most of which applied to the railway division.

11. Showed the increase in operating expenses in the electric division.

12. Gave a comparative statement of revenue and expenses for all three divisions of the company per car-mile, per cubic foot of gas, and per kilowatt-hour, by divisions.

13. Gave comparative gross revenue and salaries and wages paid for the entire company for the first nine months of 1914 and 1919.

14. Showed that the company was suffering a very serious loss and carried the message that relief to be effective must be prompt.

15. Carried the same message, but applied to the railway division alone.

16. Carried the same message, but applied to the gas division alone.

17. Carried the same message, but applied to the electric division alone.

18. Presented a statement of the gross revenue and operating expenses for the first nine months of 1919, by divisions and totals for the company.

19. Placed before the public the improvements which were being made and the cost of these as divided among the three divisions.

20. Gave a detailed tabulation of these improvements and the cost of each job.

It is interesting to note that nothing less than one-quarter-page space was used in this publicity campaign, running from this up to a full page. The entire cost of the space thus used was under \$2,000.

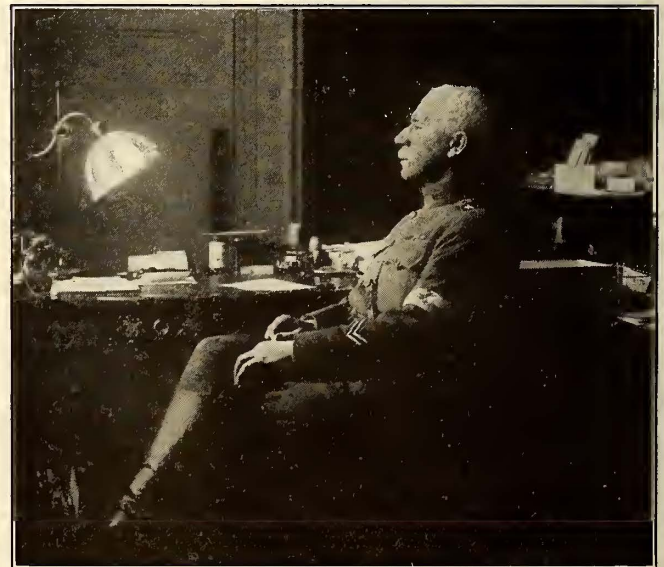
In addition to the educational campaign carried on through purchased space in the newspapers, the hearings before the Federal Commission were further capitalized upon by distributing the daily bulletins sent out to all member companies by the publicity committee of

the Committee of One Hundred from Washington, to the 500 members of the Chamber of Commerce, to a long mailing list of other business men, to the Mayor and Board of Aldermen and even to the Governor and other State officials. All of these bulletins were mailed separately to the individuals. Also, a letter printed in pamphlet form was distributed to all employees of the company, informing them of the situation and enlisting their active support in educating all of the people with whom they came in contact as to the necessity for increased rates.

No "KICKS" SO FAR

Perhaps it will be said that as the railway commissioner of the Federal Electric Railways Commission, Mr. Gadsden was in a strategic position to see the opportunity which the hearings of that body afforded for reaching the public of any community with the true situation faced by the electric railways. He was; but the big thing is that the opportunity was not lost. The increases sought have been secured and since the case was entirely devoid of the usual antagonism and "soreness" toward the increase, there is every reason to believe the company will derive very nearly if not quite the full theoretical increase in revenue. In the few days passed at the time of the writing of this article, both company men and newspaper men report that they have heard nothing in the way of a "kick" and have, on the contrary, heard a number of people voice the feeling that they were glad the company got its increases, that it fully deserved them.

General Harries at Berlin



GENERAL GEORGE H. HARRIES

Former President American Electric Railway Association, While Head of the United States Military Mission in Berlin, to Which Place He Was Appointed Immediately After the Armistice.

THE accompanying view shows Gen. George H. Harries, vice-president of H. M. Bylesby & Company, while head of the United States Military Mission in Berlin after the armistice. At the Atlantic City convention of the American Electric Railway Association, General Harries gave an account of some of his experiences while in Berlin. He has recently given talks on the same subject before the Society of Illuminating Engineers in Chicago, Chicago Electric Club, and the Commercial Club of Omaha.

A. E. R. E. A. Standard Material Specifications

Joint Action With the American Society for Testing Materials Will Assist in the Speedy Adoption of Desired Standards

BY T. A. CHANCE

IN AN earlier issue of the ELECTRIC RAILWAY JOURNAL I discussed some of the points in connection with the A. E. R. E. A. standard specifications for finished articles of equipment. Some comment on the materials specifications are given in this article.

QUENCHED AND TEMPERED CARBON-STEEL AXLES, SHAFTS AND SIMILAR FORGINGS (SECTION ET 9B)

This specification is one which was originally fathered by the electric railway association and was later adopted by the American Society for Testing Materials. The latter society is one which is becoming more and more the natural agent for the dissemination of standard specifications. It does not seem wise for an operating organization such as the Engineering Association to attempt to compete with one formed of men especially skilled in the manufacture of materials, and it would therefore be the part of wisdom for the A. E. R. E. A. to adopt as its standards those which have been adopted by the A. S. T. M. This, then, would establish for the quenched and tempered axle specification the A. S. T. M. standard specification for quenched and tempered carbon-steel axles, shafts and other forgings for locomotives and cars, bearing the designation A-19.

It is possible that there would be criticism of this course; but engineers are practically agreed on the desirability of reducing to a minimum the number of standards covering like parts, and active steps are being taken by all engineering societies toward the final adoption of a set of American standards and for materials, and this work is being handled largely through the A. S. T. M. Failure to co-operate will not show independence but rather give cause for provocation. Should there be any criticism of the A. S. T. M. specifications on the part of the A. E. R. E. A. the discussion should be carried on through the committees of the former.

ANNEALED CARBON-STEEL AXLES AND SIMILAR FORGINGS (SECTION ET 11B)

The same comments hold for this specification as for the previous one. The main provisions are covered in the A. S. T. M. specifications A-18 for carbon-steel and alloy-steel forgings. The A. E. R. E. A. specification is unreasonable in that it provides both a complete chemical specification and complete physical property specification.

It is well known that the two specifications are inseparably connected so that if a definite series of physical properties is desired it should be specified without naming the chemical content, other than the impurities, leaving the manufacturer free to provide the composition necessary to obtain the desired physical results.

If it is felt by the association that the A. S. T. M. specification does not contain all the elements that should be incorporated in an axle specification of this character the proper course to pursue is to propose to the A. S. T. M. a revision of the specification men-

tioned above or the creation of a new specification covering annealed steel axles alone.

SOLID WROUGHT-CARBON-STEEL WHEELS FOR ELECTRIC RAILWAY SERVICE (SECTION ET 12A)

Here again we have a difference between the specifications of the association and that of the A. S. T. M. specification for wrought solid carbon-steel wheels for electric railway service, bearing the designation A-25. The association specification bears a somewhat drastic requirement as to the substantial agreement in carbon content in different parts of the wheel. The data so far gathered by the association do not, I believe, warrant the assumption that such an agreement in carbon content materially increases the serviceability of the wheel, so as to warrant its inclusion in a standard of the association.

Furthermore, as in the case of the annealed steel axle specification, if it is the mature judgment of the association (which is very doubtful) that such a provision should be included, the matter should preferably be handled through the A. S. T. M. It is of no advantage to the association to include doubtful provisions in its standard specification which will only cause the manufacturers either to refuse to work to the specification, or else ask an extra price. By such action the association merely handicaps its members who desire to use specifications as proposed without being assured that it is providing any advantage to compensate for the penalty.

CASE-HARDENED FORGED STEEL BEARS (SECTION ET 14A)—QUENCHED AND TAPERED FORGED CARBON-STEEL BEARS (SECTION ET 15A)—CASE-HARDENED FORGED STEEL PINIONS (SECTION ET 16)—QUENCHED AND TEMPERED FORGED CARBON-STEEL PINIONS (SECTION ET 17A)

There is probably no particular objection to these specifications, other than the fact that the purchaser is limited to the trade product of a very few manufacturers. The specifications therefore mean little or nothing and the standing of the association standards would therefore be raised by their elimination.

In conclusion I would say that the desire of the association to increase the use of its standards by its members is entirely laudable, but analysis shows that revisions and eliminations should be made in the equipment standards as they now exist, and the same undoubtedly holds true for the other branches of the art. The association should look to it that this work be undertaken in the coming year, and that it be conducted on a broad-minded basis, without fear, favor or prejudice of anyone.

Mounting Circular Work on a Lathe

THE shopman operating a lathe sometimes has trouble in mounting a circular piece of work concentrically upon the face plate. If the piece to be turned is not mounted in the center of the face plate the turning marks left by the lathe tool will present a very rough appearance. A convenient method sometimes used in such a case consists first of setting the lathe in motion and then holding the end of a piece of chalk on the revolving face plate so as to draw a circle with a diameter just a little larger than the work to be turned. With this circle as a gage it is a comparatively simple matter to mount the circular piece to be machined centrally within it.

Association News

Power Generation Committee Begins Work

THE Engineering Association committee on power generation met at association headquarters on Jan. 5, with the following members in attendance: A. B. Stitzer, Republic Engineers, Inc., New York City, chairman; N. A. Carle, Public Service Electric Co., Newark, N. J.; H. E. Davis, New York State Rys., Utica, N. Y.; W. S. Finlay, Jr., Interborough Rapid Transit Co., New York City; C. A. Greenidge, J. G. White Management Corporation, New York City; F. A. Scheffler, Fuller Engineering Co., New York City, and W. C. Slade, the Rhode Island Co., Providence, R. I. W. C. Karr, Republic Engineers, Inc., was also present by invitation.

The main three subject assignments made by the executive committee were then taken up in order; namely, (1) power contracts, (2) special fuels and (3) power-plant statistics, as listed in the issue of this paper for Jan. 3. Reports from the sub-committees on these topics as to their plans were received. These sub-committees are as follows: Topic 1, W. C. Slade, chairman, N. A. Carle, E. H. Scofield, C. W. de Forest; Topic 2, W. S. Finlay, Jr., chairman, F. A. Scheffler, H. P. Bell, F. C. Hanker, A. H. Kruesi; Topic 3, C. A. Greenidge, chairman, H. E. Davis, N. A. Carle.

On the first topic, presented by Mr. Slade, it was decided to prepare a suggested form of contract for the purchase and sale of power, basing it upon the form prepared last year, the first draft to be submitted to the members of the sub-committee and their suggestions to be incorporated in an explanatory appendix. For the second sub-committee Mr. Finlay stated that an analysis would be made of the economic factors involved in the use of fuels other than lump coal and the results will be presented in graphical form. A review of progress in this field to date will also be included. Mr. Greenidge said that data on the cost of power would be collected by means of a questionnaire, the information to be given for a period of years and to cover only operating costs. Actual costs will be requested, but the results of the canvass will be "masked" to protect the contributors.

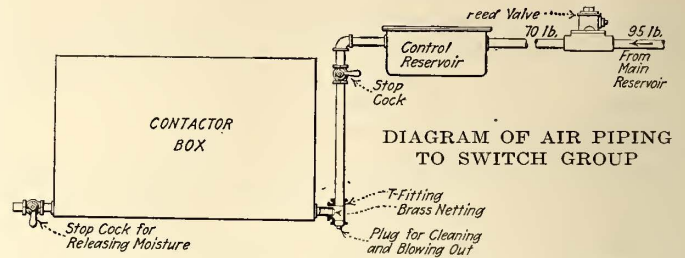
The power generation committee was enthusiastic over the prospects for the year's work and, as indicated above, plans a report of great value.

A Trap for Undesirable Material

ON A LARGE railway system operating some new cars equipped with multiple-unit electro-pneumatic switch-group control, considerable trouble was experienced due to overheated resistors. Investigation showed that the switch groups were not notching up properly, due to an accumulation of pipe scale which clogged up the magnet-valve port-holes. The equipments were new and the accumulation of pipe scale had come from some of this being left in the pipe upon installation, and also because some scale loosened from the inside of the pipe after the cars had been put in-service. In order to prevent the pipe scale from entering the contactor box a T-fitting was installed in the air-line ahead of the switch group as indicated in the accompanying diagram. The

opening of the "T," leading to the contactor box, was fitted with some rather fine brass netting so as to strain out all undesirable material. The lower opening in the pipe "T" was closed with a plug which could be easily removed and would thus permit cleaning.

These cars were operated for a considerable distance on lines which ran to seashore resorts. During damp



weather there was an excessive accumulation of moisture in the air piping, which entered the air connections of the various control valves and caused sluggish operation. In order to provide for draining and blowing out this moisture, an additional stop cock was installed in the piping of the switch at the end opposite to that at which the air entered. This provided a means by which the motorman could drain and blow out any excess of moisture before the car was placed in service.

Letter to the Editors

Compute Car Weights by Considering Total Passengers Carried

THE J. G. BRILL Co.

PHILADELPHIA, PA., Dec. 26, 1919.

To the Editors:

In the ELECTRIC RAILWAY JOURNAL of Dec. 13, page 883, there is an editorial entitled "What Will the Car of Tomorrow Weigh?"

The basis of the car weight in this editorial is per passenger seat. It would seem that this is not the most satisfactory method of determining whether a car is light or heavy. If, for instance, we take the weight of a safety car at 15,000 lb. and the seating capacity at thirty-two passengers, the weight works out to 468 lb. per seat. If this car had been designed to carry but thirty-two passengers, then there would be a good reason for working out the weight on the seat basis, but as these cars are capable of carrying a total weight of passengers equal to the weight of the car and frequently do so, there is actually a pound of car for each pound of passenger weight carried, and we believe that this is the proper method of working out the comparative weight of cars. At least, it should be used in addition to the weight per seat.

Most of the double-truck cars, according to our calculations, will show about 2 lb. of weight of car to 1 lb. of passenger weight carried. This is obviously a very strong talking point in favor of the light-weight safety car, and we think it is only fair to the safety car to compare its weight with that of the double-truck car on a total passenger basis instead of only on the per seat basis where the comparison is not so favorable.

W. S. ADAMS, Designing Engineer.

Bulletin News Page

Summary of the Principal Happenings of the Industry of Current Interest Since the Last Issue of this Paper Was Published

PRINTED JANUARY 9, 1920

The San Francisco (Cal.) Municipal Ry. must have a higher fare if it is to continue to pay the present wage of \$5 a day to platform men.

The Louisville (Ky.) Ry. has asked the city authorities of Louisville for a 7-cent fare with a 1-cent transfer charge.

The New York Rys., the Brooklyn Rapid Transit Co. and the Interborough Consolidated Corp. have applied to the Board of Estimate of New York City for an 8-cent fare.

Straight 7-cent fares went into effect on the lines of the United Railways & Electric Co., Baltimore, Md., on Jan. 1, under authority of the State Public Service Commission.

The Clinton, Davenport & Muscatine Ry., Muscatine, Iowa, is now charging 7-cent fares on its lines in Muscatine. The fare increase was authorized by popular vote.

The Washington Railway & Electric Co. has applied to the Public Service Commission of the District of Columbia for permission to install a straight 7-cent fare on its lines and to charge 2 cents for each transfer.

Ten-cent fares will go into effect on the lines of the Tacoma Railway & Power Co., Tacoma, Wash., on Jan. 18.

The Morris County Traction Co., Morristown, N. J., has applied to the State Board of Public Utility Commissioners for authority to install 7-cent fares on its lines.

The City Commission of Trenton, N. J., is considering a plan for the operation of jitney buses within the city limits.

The Aurora, Elgin & Chicago R.R. has been authorized by the Public Utilities Commission of Illinois to raise fares on its lines in Elgin and Aurora to 8 cents.

The Cincinnati (Ohio) Traction Co. did not advance its fare on Jan. 1 from 7 cents to 7.5 cents, owing to its success in securing needed funds from other sources.

The Wisconsin Railroad Commission will reconsider its recent order authorizing the Milwaukee Electric Railway & Light Co. to raise its fare to 7 cents.

The Lewiston-Clarkston Transit Co., Clarkston, Wash., is now charging 7-cent fares.

The City of Seattle, Wash., has instituted legal proceedings to compel the Seattle & Rainier Valley Ry. to transport city firemen and policemen in uniform free of charge.

The Public Service Commission for the Second District has suspended an increased rate which the New York State Rys., Syracuse, proposed to place in effect on its Mohawk Valley lines.

D. E. Waggoner, president of the Security National Bank of Dallas, Tex., proposes that the Dallas Ry. be allowed to increase its fare.

The Supreme Court of North Carolina has handed down an opinion upholding the right of the State Corporation Commission to grant fare increases in spite of limitations contained in municipal franchises.

E. G. Connette, president of the International Ry., Buffalo, N. Y., has tendered his resignation to the directors of the company.

The personnel of the Brooklyn (N. Y.) Rapid Transit Co. has been reorganized, owing to the fact that much of the work in connection with the new lines of the New York Municipal Ry. has been completed.

George Weston, noted electric railway engineer, died on Jan. 7 from acute indigestion.

The application has been granted which was made to foreclose the Shore Line Electric Ry., Norwich, Conn.

In recent decisions in Illinois the Supreme Court of that State has ruled that "going value" must be taken as an element of valuation.

Complete Memphis appraisal report shows unanimity of opinion on values not apparent in unofficial figures.

The Androscoggin & Kennebec Ry. has succeeded the Lewiston, Augusta & Waterville Street Ry., following receivership and foreclosure.

Solly Joel, of Bernato Brothers, is said to have purchased control of the local London railways from the Speyer interests.

An important paving case with possible bearing elsewhere has just been decided in favor of the Illinois Traction System.

Agitation has been started looking toward the removal of cars from Broadway, New York, and their replacement with buses.

Public telephones will be installed at each of the 517 rapid transit stations in the several boroughs of Greater New York.

Hastings, the quiet little village on the Hudson which had its bucolic existence disturbed by the suspension of service some time ago by the Yonkers Railroad, stands in prospect of securing limited railway facilities.

The arbitration is under way which was provided for in the settlement of the strike of the employees of the San Francisco-Oakland Terminal Railways, Oakland, Cal., last October.

The Detroit (Mich.) United Railway is beginning to order material for use in carrying out the extensive construction program which it announced recently.

A subway for street cars is being discussed at Cincinnati, Ohio.

Publicity men in particular will be interested in "A Straphanger's Philosophy," elsewhere in this issue.

The plan of reorganization of the Oakland-Antioch Railway has been modified. The reorganization committee found it impossible to market the bonds under the plan previously approved.

\$80,466,100 of electric railway securities will mature during the year 1920. The grand total of utility maturities for the year is \$196,296,800. The largest amounts of maturities come due in January and November.

Several abandonments of service were set to take place in San Diego, Cal., on Jan. 1.

In the last eighteen months the receivers of the Pittsburgh (Pa.) Railways have succeeded in paying just about one-third of the fixed charges of \$5,153,673.

The net receipts of the Chicago (Ill.) Surface Lines for November under the 7-cent fare were \$954,162.

There would appear to be no immediate prospect of a reduction of the fare on the Boston (Mass.) Elevated Railway from 10 cents.

It is reported that the valuation of the New York (N. Y.) Railways now nearing completion by Stone & Webster will show something like \$140,000,000. At 1914 prices the value was \$85,000,000.

News of the Electric Railways

FINANCIAL AND CORPORATE • TRAFFIC AND TRANSPORTATION

PERSONAL MENTION

Construction Program Begun

Detroit United Railway Makes Start Toward Carrying Out Its Recently Announced Plans

The Detroit (Mich.) United Ry. has placed orders for 10,000 tons of rails for its extensions and replacement plans, with the intention of completing, at the earliest possible moment, work already started.

CAR BUILDING PROGRAM

It is planned to continue operation of the Highland Park car shops during 1920 where car building operations will add many new motor and trail cars to the equipment of the city lines. In addition to this, \$1,000,000 worth of equipment has been ordered for interurban lines.

That the limit of the company's available resources are being used to keep pace with the requirements of the traveling public and aid in the expansion and upbuilding of Detroit and adjacent communities served, is contended by the company officials.

Although details of the proposed plans for ultimately relieving congestion have not been announced, the company's engineers estimate that improvements necessary properly to care for the needs of Detroit in the way of surface lines and essential equipment, including cars, power and buildings, involves an expenditure of an amount exceeding \$15,000,000. This improvement program which is so vital to Detroit's growth should be under way promptly, but is necessarily deferred until the company is put in a position to borrow the money upon some recognized and safe basis.

Among the various extensions begun in 1919, involving in all about 16 miles of track, the Stephenson line remains to be completed from Woodward Ave. along the Six Mile road and going north on or parallel to Oakland Ave.

IMPORTANT EXTENSIONS PLANS

One of the most important new extensions to be completed and placed in operation as soon as construction activities permit is the Twelfth St. extension of the Trumbull line to connect with the line on Oakman Ave. at Elmhurst Ave. This line when completed will serve a very important section of the city which is now without adequate service.

The St. Jean extension also remains to be completed, work having been started on the Harper Ave. end. This is a north and south line on the east side of Detroit, which will run from Jefferson Ave. along St. Jean Ave. to Shoemaker Ave., thence on Montclair

and Harper Ave. to Gratiot Ave. This line will aid in the development of an important business and residential section of the city.

There was an unparalleled increase in the city's traffic beginning in the summer of 1919. Developments in certain sections of the city not adequately served by railway have added to traffic difficulties on the existing lines and expansion of new residential sections has been hindered by lack of service.

Oakland Wage Arbitration Begun

The hearing was begun on Dec. 19, in the arbitration of the demand of the platform men of the San Francisco-Oakland Terminal Rys., Oakland, Cal., for an eight-hour day and an increase in wages. The arbitration is in accordance with the terms under which the strike of last fall was settled. This strike was called on Oct. 1. It lasted ten days.

According to the testimony at the first session of the arbitration board, the strike cost the San Francisco-Oakland Terminal Rys. \$400,000. Of the amount named \$194,000 represented general expenses incident to the strike, including the care of men brought in to replace the strikers. The loss in revenues is placed at \$210,000.

At the session on Dec. 20 the company represented that the deficit for the year would be \$372,000. J. P. Porter, superintendent of transportation, declared the company had had no difficulty in getting men to work despite the complaint of the men that wages were too low and the hours too long. Since Oct. 11, the day the strike ended, and up to Dec. 12, the company received 842 applications from men wishing to go on the platform.

The general defense of the company is that the demands are impossible of fulfillment by it. The company contends that to grant the demands made by the men would cost \$1,828,000 a year.

The men contend that the increased cost of living makes an increase in wages absolutely necessary. They base their demand for an eight-hour day upon the adoption of the eight-hour day by the Federal Government and by municipalities and for other forms of work.

Warren Olney, Jr., Associate Justice of the Supreme Court; Ralph Merritt, comptroller of the University of California, and former Food Supervisor, and E. C. Bradley, a former member of President Wilson's Industrial Conference, are sitting as a board of mediation, with Mr. Olney as the chair-

Promise Resumption of Service

New York Commission Sanctions Plan for Restoring Railroad Facilities at Hastings

The Public Service Commission for the Second District of New York has decided that public necessity and convenience require the construction of the Hastings Ry.'s line. The commission has also approved the construction of the new electric railway under a local franchise granted on Nov. 20.

SERVICE ABANDONED LAST APRIL

The commission's order follows various steps taken to provide Hastings with electric railway service following the abandonment by the Yonkers Railroad of its Hastings line last April because of a restricted 5-cent fare.

Commissioner J. A. Kellogg, in a memorandum accompanying the order, speaking of lack of service to Hastings Heights and Uniontown, says:

It is not to be wondered at that people who have located, purchased property, and perhaps have erected homes in the expectation of a continuance of a long-established transportation service, should be indignant and feel outraged at the cessation of that service. And it is to be hoped that their very natural desire and demand for transportation may be complied with at a not far distant date, when normal conditions are resumed.

But the only present question is, whether this proposed limited strip of railroad serves the public convenience and necessity, so that the certificate of the commission should issue to that effect, and its permission be given to exercise franchises by local authorities.

The evidence, the commissioner says, shows about 3,800 people were carried daily on the former road, indicating a substantial demand for service. It is quite apparent, he continues, that a line which will serve public convenience so far as it is operated ought not to be denied the necessary certificate for the reason that it does not extend a sufficient distance to accommodate other people.

COMMISSION'S STATEMENT

The commission says further:

It is to be regretted that the railroad company does not see fit to reinstate the entire line operated for so many years, as it is quite probable that with the present fares the burden of operation of the entire former line could be successfully borne. But if the new company does not see fit to undertake the operation of the more extended line, it should not be prevented from operating for the shorter distance. The operation may prove so profitable and pleasant that the company may shortly see its way clear to resume, with reasonable expectation of added gain, the operation in effect for many years, by the extension of the franchise applied for. It is unfortunate that the needs of this entire community cannot be served by proper transportation facilities, but it is hoped that a beginning will be made, in the exercise of the franchises here applied for, and that such franchise, at no distant date, will be extended to accommodate the entire community.

Illinois Traction System Wins Paving Case

Decision at Tilton Regarded as Having Possible Bearing on Similar Cases Elsewhere

In a case which came to trial on Dec. 4 in the Vermilion County Circuit Court, involving the right of a municipality to compel an interurban railway to pave between its tracks with concrete, the petition of the Village of Tilton, Ill., for mandamus was denied.

HISTORY OF CASE

Several years ago, the Danville, Urbana & Champaign Railway (Illinois Traction System), as successor to the Danville, Paxton & Northern Railroad, began operating through the Village of Tilton, under a franchise which among other things required the railroad to pave its right-of-way at the same time and in the same manner as the village improved the balance of the street by paving the same. Early in 1919 the Village of Tilton passed an ordinance whereby it was to pave the street for a distance of 7 ft. from each curb. Agreement was made with the Township of Danville for the Township to pave the street from a point 7 ft. from each curb line to within 1 ft. of each rail of the tracks of the Danville, Urbana & Champaign Railway. The railway was then notified to pave the space within its tracks and for 1 ft. on the outside of each rail. The specifications for the pavement by the Village of Tilton and the Township of Danville called for a concrete slab, approximately 7½ in. thick. No specifications were prepared by the Village or Township authorities as to the pavement to be laid by the railway.

The demand of the Village of Tilton upon the railway to pave was construed to mean, under its franchise, that the company was called upon to pave with 7½ in. of concrete. The demand was refused, and a petition for mandamus was filed in the Circuit Court of Vermilion County.

COMPANY ANSWERS COMPLAINT

The company filed its answer setting up the following defenses:

1. That the Village of Tilton was not improving the street, claiming that only a portion of the street was being paved by the village, and the balance by the Township of Danville.

2. That at the time of the passage of the ordinance under which the railroad was operating, Tilton was a country village of about 200 population, and at that time there was no law in Illinois authorizing the paving of streets in villages, except the statute relating to cities and villages, whereby streets might be paved by general taxation or by special assessment upon the abutting property owners; that at this time there was in the mutual contemplation of the parties, that when the village should reach sufficient population whereby a pavement should be laid because of the natural growth of the village, the traffic upon the railroad would be sufficient to warrant the paving of its tracks. It was also claimed that the so-called hard roads act under which a part of this pavement is being constructed was not then in existence or contemplation.

3. It was claimed that the railroad was not financially able to pay for the pavement, in that it was falling to earn enough money to pay its operating expenses, depreciation and other fixed charges.

4. It was claimed that to pave between the tracks of the company with concrete was impracticable.

5. It was claimed that the Public Utilities Commission had jurisdiction of the matter, and that the ability of the company to pay for this pavement and the right to issue securities for its payment should first be passed on by the Public Utilities Commission.

A demurrer to this answer was filed by the village. The court, in passing upon the demurrer, held:

1. That the allegation was not a defense which was made in the answer that the village was small when the ordinance was accepted, and it was in the contemplation of the parties that pavement would not be put in until the village was large enough to justify the company to construct the pavement by reason of increased traffic, and since that time the hard roads act had been passed by which part of this pavement had been constructed.

2. That the allegation was a good defense that the village was not constructing the pavement adjoining the track of the company.

3. That the allegation of want of funds and the jurisdiction of the Public Utilities Commission was not a *prima facie* defense, but if the mandamus should issue and the commission ultimately refuse authority to issue securities, this would be an excuse for not complying with the writ of mandamus, and

4. That the allegation, if proved by the evidence, was a good defense that a concrete pavement was impracticable for the operation of the railroad.

COMPANY FINANCIALLY UNABLE TO PAY

Issues were finally joined, and the case came to trial on Dec. 4, in the Vermilion County Court before a jury. The principal evidence introduced by the company was as to its financial ability to pay for the pavement, and as to the practicability of the construction of a concrete pavement 7½ in. deep in these tracks. It was shown that the company was operating not only heavy suburban passenger cars over this track, but it was also hauling foreign freight cars, many of them 100,000-lb. capacity coal cars. It was also shown that a pavement of 7½ in. of concrete would not reach to the bottom of the ties, because the rails were 4½ in. high, and the ties 6 in., making a total of 10½ in.

If the pavement was constructed to within one-half inch of the top of the rail as required by the ordinance this would leave only a 4-in. slab of concrete on the top of every tie. It was also shown that the tremendous vibration involved in the operation of these heavy cars would, within a period of a few months, cause the concrete to break up and necessitate constant repairs; that it would be almost impossible to repair rail joints without destroying the pavement, and that while cars were in active operation, any repairs which might be made would never be satisfactory, because the concrete would go to pieces under the vibration before it could set. It was also shown by witnesses for the company that it was decidedly against the engineering practice of railroads to pave with concrete.

Even the witnesses for the village admitted that a pavement of concrete without a very substantial con-

crete ballast entirely underneath the ties would be impracticable.

Special interrogatories were submitted to the jury, and that body found as follows:

1. That the company was financially able to incur this expenditure.

2. That it was impracticable to lay a concrete pavement for tracks and operate over the same, and

3. That it would require frequent repairs on account of the concrete breaking up under the weight of the heavy interurban cars.

On Dec. 12 a motion for a new trial by the Village of Tilton was denied, and judgment entered on the verdict in bar of the action. This means that the petition of the Village of Tilton for mandamus is denied.

Buses for Broadway?

Since the board of directors of the Broadway Association made recommendations to improve traffic conditions on Broadway the transportation committee of the association has submitted the following three questions as a referendum to the members:

Are you in favor of a through line operated from Bowling Green to Kingsbridge for a single fare without a transfer?

Are you in favor of the continued use of the present type of green car on Broadway south of Forty-fourth St.?

Are you in favor of the removal of the street car tracks and the substitution of a modern bus line system operating on Broadway?

The committee points out the following facts:

1. The surface railway on Broadway is operated in two sections: one, the green car lines from Bowling Green to Broadway's intersection with Seventh Avenue at at Forty-fourth St. and, the other, the red car line from the intersection north to 130th St. A separate fare is charged on each line and no transfers between them.

2. South of Forty-fourth St. the green car line is operating a type of low platform cars with side entrance and exit through only one door at a time and has a seating capacity of about forty-nine persons.

3. Broadway south of Thirty-fourth St., is 43 ft. wide, designed and sufficient for six lanes of ordinary vehicular traffic, three lanes in each direction. The street is now occupied by two car tracks occupying 17 ft. of the width of the street from extreme outsides of cars. The street cars stop at nearly every corner to take on and let off passengers, who have to pass across the space reserved for two lanes of vehicular traffic in order to reach the sidewalk. The law requires all vehicular traffic in this section of Broadway to stop when the car stops until the passengers get on and off and the cars are ready to resume their headway.

Other important points touched on by the committee show that Broadway is the only street in Manhattan Island running from Bowling Green to Kingsbridge and is the logical thoroughfare for automobile traffic.

The committee further points out that tracks are not permitted on the finest streets of other cities and that modern motor buses in European cities and some American cities accommodate sixty passengers and could be used on Broadway. They move close to the sidewalk and other traffic could keep moving. In event of a breakdown they could be quickly removed.

The committee says that reliable information is that a bus line can be profitable on the entire length of Broadway on Manhattan for a single fare.

Commission Courts Investigation

New Jersey Body States Plainly Its Attitude on the Matter of Rates—Reviews Fare Case

The Board of Public Utility Commissioners of New Jersey has presented its report for the year recently ended. It is a clear-cut statement of the attitude of the body with respect to its own actions, the presentation of the board's position on the matter of rates being particularly forceful and to the point. The board feels that an investigation of the whole problem of public utility regulation by a commission of citizens in whose fairness and ability the public would have confidence would go far to clear up the misunderstandings which it thinks exist in the public mind. It recommends such an inquiry.

BOARD'S COMMENT ON CRITICISM

In discussing criticisms of rate advances by the public the commission made the following comment:

It is a matter of regret that advances in charges of public utilities to meet increased operating cost and which under the circumstances it would have been unreasonable to deny have been misunderstood by many, and the important principles involved ignored in public discussion conducted in the heat and turmoil of political campaigns.

There are but two methods by which public utility service can be supplied; one, where in the expectation of the protection of the law and the enjoyment of a reasonable profit capital is invested and public utilities are conducted as business concerns, subject to the regulation and restraint which because of their public nature it is reasonable and proper to impose; the other, requiring a departure from the principle of the regulated business concern and the substitution of municipal or public ownership.

No matter how much the decision of the board may be misrepresented and misunderstood, or to what extent through misrepresentation and misunderstanding prejudice may be created, it cannot, unless it falls in the performance of its duty, permit this to influence its action.

The performance of this duty requires, when conditions justify it, that rates should be reduced to prevent the exaction of more than a reasonable price for the service afforded. The reduction of rates naturally is far more popular than their increase. It is, therefore, much more agreeable to public officials to reduce rates when reasonable to do this.

But increases in rates cannot, in the proper performance of public duty, be denied when they are justly due. Though the allowance of increases may result in misunderstanding and false charges of undue favoritism to corporate enterprises, the public officials upon whom the law imposes the duty of increasing rates when existing rates are insufficient, must perform this duty, disagreeable though it may be.

It seems to us that in much of the recent discussion of the public utility question this fact is not appreciated. There are those who urge in effect that the efforts of a public utility commission should be directed, not to dealing fairly with the people and the utilities who serve them and to see that both are protected in their just rights, but to ascertaining that those who claim to speak for the public demand, and allow it without question or consideration of the effect upon the utility.

Such a contention, if it is to shape the public utility policy of the State, can only lead to disaster. Its primary effect would be the widespread ruin of public utility enterprises. After this would come demoralization of service, inability to attract capital to provide for the continued development necessary to meet the requirements of growing communities, and a condition affecting the comfort and well being of the many thousands of our people to whom, under modern living conditions, the service afforded by public utilities is a necessity of existence.

Rather than adopt any such policy, it would be far better not to continue the

present plan to looking for companies in which private capital is invested for any form of public utility service, but provide as speedily as possible for public ownership and operation. The arguments that greater efficiency, more economical operation and a more satisfactory service can be obtained with private ownership, subject to public regulation, have no force if the serious problems it involves are not to be fairly considered and reasonably determined with justice to all; but are to be regarded as something to be juggled with to gain the applause of those who give no heed to their true significance and importance, and fail to appreciate the ultimate effect of ill-considered action.

The report indicates that electric railways, being the largest employers of labor among public utilities, have been particularly affected by wage increases. In 1914 the operating expenses and taxes of the electric railways were 66.2 per cent of the operating revenues. In 1918 they were 76.1 per cent. While increased travel and higher fares resulted in 1918 in increased operating revenues to the amount of \$4,541,186 over 1914, the net return was \$782,481 less than in that year, when fewer cars were in service and the investment of capital smaller.

Besides reviewing the work of the past year, including an historical sketch of the Public Service Railway rate case, the report contains a chapter devoted to a discussion of jitney competition, in which it is suggested that jitneys be subjected to proper regulation, a discussion of conditions compelling rate advances and comment by the commission upon the suggestion for an independent appraisal of public utilities as a means of determining rates.

Vote for Municipalization

At the municipal elections on Jan. 1, the ratepayers of Guelph, Ont., carried by a majority of five to one the by-law providing for the purchase of the Guelph Radial Railway on July 1 of this year. They also carried the by-law authorizing the issue of \$855,235 of debentures, being Guelph's share of the hydro-radial line from Hamilton to Galt, to Preston, Elmira and Guelph. The majority was almost five to one.

By a majority of 956 the ratepayers of Galt, Ont., carried the by-law providing for the issue of debentures covering Galt's share of the proposed hydro-radial line from Hamilton to Galt and on to Guelph.

The by-law providing for the taking over of the lighting plant of the street railway at Windsor, Ont., was carried by a majority of 1,400.

The hydro-radial by-law guaranteeing \$630,000 as Hamilton's share of the line to Guelph to be built by the Hydro-Radial Commission was carried by a majority of nearly 2,000.

Sir Adam Beck, chairman of the Hydro Commission, has been seriously ill in England with pneumonia. He is now reported to be somewhat improved. A. B. Lucas is acting chairman in the absence of Sir Adam.

The claim of the commission against the Dominion Government for about \$1,250,000 has been referred to the Dominion power board.

"Social Function of Engineer"

Lectures to Be Given by Prof. Marx—Other Courses at New School for Social Research

The New School for Social Research of New York has arranged for a series of weekly lectures on "The Social Function of the Engineer," to begin on Feb. 2, and be given each Tuesday evening thereafter for twelve weeks at the school, 465 West Twenty-third St., New York. The course will be conducted by Guido H. Marx, professor of mechanical engineering at Leland Stanford University.

The theory upon which the course is based is that the production and distribution of goods is now fundamentally an engineering as well as social problem. The engineer's function is to insure the full use and unimpeded operation of the material resources and industrial equipment of the nation, with a view to secure a larger volume of production and a more adequate distribution of the output. The purpose of the course will be to reach a common understanding of the existing industrial and social problem.

The New School of Social Research at which this course will be given was founded last year by a group of men who believed that there was educational need for an institution of this kind. Its purpose is to supply instruction of a "post-graduate" character, although an academic degree is not required for admission. Each student is assumed to be pursuing his particular studies for their own sake for his own aims, so there is no prescribed courses of study or fixed curriculum. There is also no grant of degrees.

The courses given last year related particularly to the so-called "human sciences," such as history, economics, psychology and social and political science.

Abandonment Put Off

Public Service Commissioner Lewis Nixon of New York City on Jan. 6 made public correspondence between himself and Adrian H. Larkin, counsel to the electric railways on Staten Island, in which Mr. Nixon requested the company not to stop service in Richmond before Jan. 19.

Mr. Larkin has agreed to recommend to the company that no notice concerning the proposed cessation of operation shall be posted before Jan. 16, and that the notice, when posted, shall provide that discontinuance of service shall not take place earlier than Jan. 19.

Commissioner Nixon points out in his letter to Mr. Larkin that such postponement of cessation of operation will give opportunity to the committee appointed by Commissioner Nixon on Dec. 29, to make recommendations to the Board of Estimate and for the Board to act upon such recommendations if it desires. The companies had previously agreed to refrain from closing down before Jan. 10.

News Notes

Planning to Enter Cleveland.—It is rumored in Akron, Ohio, that the Northern Ohio Traction & Light Co. will enter Cleveland over a private right-of-way, in the event that the Cleveland Union Terminals Co. is finally defeated. The inference is that connection will be made with the right-of-way of the Nickel Plate Railroad at some point.

Story in Pictures.—Toledo Railways & Light Co., Toledo, Ohio, recently published an attractive pamphlet with this title, descriptive of its new office building in Toledo. Views are shown of the showrooms and employees' quarters, etc., as well as of the power station, substation, principal carhouses and illustrations of some of the company's activities.

Wage Award Payments Made.—Payment was made by the Northampton (Mass.) Street Ry. on Dec. 24, last, of back pay to June 1. This was in accordance with the decision of the State Board of Arbitration, which rendered a finding recently. The old rates for trainmen were from 35 to 40 cents an hour. The new rates are from 44 to 54 cents an hour.

Jamaica Carmen Strike.—The conductors and motormen employed by the West India Electric Co., Ltd., which operates the electric railway systems in Kingston, Jamaica, went on strike for higher wages on Dec. 26. Under the terms of the franchise of the company the right is reserved to the government to take over and manage the affairs of the company if service is not restored within a specified time.

Contests Air Brake Ordinance.—The Peoria (Ill.) Ry. has taken first steps to test the validity of the city ordinance demanding that airbrakes be placed on all cars operating in that city. The company has filed ten cases to the Circuit Court of Appeals. Prosecutions were started by City Attorney Harry Reyl under the ordinance of Sept. 27, 1917, which required that all street cars operated in the city be equipped with airbrakes.

Program of Bureau of Standards.—As a part of its program for the next fiscal year the Bureau of Standards, Washington, D. C., will undertake an investigation of the standards of practice and the methods of measurement of public utilities, including electric railways. An appropriation of \$200,000 is available for carrying on the work. The immediate direction of the inquiry will be placed in the hands of an electrical engineer who will be paid a salary of \$4,200.

Mid-Crosstown Transit to Be Discussed.—Transit Construction Commissioner John H. Delaney has called a hearing for Jan. 20 at which consideration will be given to petitions and proposals for readjusting, redistributing or diverting rapid transit passenger traffic in the central section of Manhattan. These proposals are several in number, and include suggestions for the construction of a moving platform under Forty-second St., Manhattan; extension of Queensboro subway west to Eighth Ave., under Forty-second St.; a change in the route of the Queensboro subway through Forty-first St. instead of Forty-second St., west of Park Ave.; a subway loop through Forty-second St. and Thirty-fourth St., and certain north and south avenues, and a proposal for a local service connection between the subways on the East and on the West sides of the city.

New Jersey Board Considers Criticism Unjust.—The Board of Public Utility Commissioners of New Jersey has expressed its gratification that the complaint of Montclair against the commission in the Public Service Ry. zone case was legally and judicially disposed of by Acting Governor W. N. Runyon. The board regrets, however, that the Acting Governor "should have so unfairly abused the power of his office by indulgence in an unjust criticism of the personnel of the board, using the proceedings before him as an excuse for so doing. As noted in the *ELECTRIC RAILWAY JOURNAL* for Jan. 3, page 68, Montclair officials demanded that the commission be ousted from office. The Acting Governor dismissed the charges of wrongdoing by the commission, but said that in his opinion the public had lost confidence in the commission.

Public Telephones on Transit Lines.—Forms of agreement for the immediate installation of telephone booths on stations of elevated and subway lines for the use of the traveling public, have been transmitted to officials of the Interborough Rapid Transit Co., the New York Municipal Railway Corporation and the New York Telephone Co., by Transit Construction Commissioner John H. Delaney. The form of agreement provides for the installation of as many booths as may be necessary at each of the 517 rapid transit stations in the several boroughs. The booths will be located along the platforms adjacent to the operating tracks. All telephones will be of the coin slot type. The telephone company will pay to the operating roads as rental, 10 per cent on the first 50 cents received, 5 per cent additional on the next 25 cents, and 20 per cent on all receipts above \$1 per diem.

Report Satisfactory Construction Progress.—A report showing that many of the large subway contracts in New York City will be completed and ready for operation next spring and summer, has been submitted to Governor Smith by Transit Construction Commissioner Delaney with jurisdic-

tion in New York City. The report deals with the entire subject of rapid transit construction which, it says, has progressed satisfactorily despite serious conditions for the last two years. Mr. Delaney declares he has been confronted with a difficult problem in obtaining the necessary unskilled labor and that the materials market not only has been uncertain, but is becoming more acute every day. He said, that while these conditions make an accurate forecast impossible, the indications are that the large contracts now under way will be completed and ready for operation. He then outlined the probable opening dates for various branches of the new lines. These are very largely of interest only to residents of the city of New York.

Bus Rights Forfeited.—The De Luxe Transportation Company discontinued the operation of motor buses between San José and Oakland, Cal., on Oct. 1 without the consent of the Railroad Commission of California. On Dec. 10 the commission denied the De Luxe Company authority to transfer its permit to other operators who had offered \$2,500 for it. The commission's ruling says: "Equipment could have been procured from other sources or by the lease of cars, and the public, who were entitled to service, could have obtained transportation. The obligation to render service to the traveling public between Oakland and San José was not complied with. The commission expects and will require transportation companies fully to discharge their obligations to the public in accordance with schedule filings and other regulations of the commission and suspension of service without the consent of the Railroad Commission will be regarded as a relinquishment of any operative rights which have been conferred by the commission."

Plan to Connect Municipal and Private Line.—Charles S. Butts, superintendent of the St. Louis Free Bridge, who recently asked the Aluminum Ore Company about the feasibility of connecting the proposed municipal bridge line and the railway of the Southern Traction Co., has been told by C. B. Fox, general manager of the company, that until the Southern Traction is out of the hands of the Federal Court he cannot discuss its plans. The road was sold a short while ago to the Aluminum Ore interest, after C. D. Mephram, St. Louis promoter, had failed on the second payment for the road. He had purchased it from the receiver in September. Superintendent Butts had planned to connect with the Southern Traction in order to reach Fourth and Broadway, East St. Louis, with the municipal line and to establish a downtown loop in St. Louis for the Southern Traction. Mr. Fox said that the Aluminum Ore Co. had bought the road for the purpose of bringing coal into East St. Louis for its own use and that he hardly thought the company would use the free bridge under the present ordinance.

Financial and Corporate

Reorganization Modified

Oakland, Antioch & Eastern Plan Again Changed With Approval of California Commission

In an amended application filed on Dec. 22 by the reorganization committee of the Oakland-Antioch Ry., the California Railroad Commission is asked to modify further its order in the proceedings. It is now proposed that the bondholders of the Oakland, Antioch & Eastern Ry., Oakland & Antioch Ry. and San Ramon Valley R.R. exchange their bonds for common and preferred stock of the new company.

BASIS OF EXCHANGE

In exchange for such bonds, they are to receive 7 per cent preferred stock in an amount equal to 20 per cent of the bonds deposited under the reorganization plan and common stock in an amount equal to 100 per cent of the bonds so deposited. In brief, a person owning or holding a \$1,000 bond would receive under the reorganization plan, as now proposed, \$1,000 of common and \$200 of 7 per cent preferred stock in exchange therefor. Under the terms of the original plan of reorganization, a person owning a \$1,000 bond would have received \$600 of common stock, \$200 of 6 per cent preferred stock and \$200 of bonds.

The reorganization committee asks that the new company be permitted to issue approximately \$6,550,000 of common stock and \$1,330,000 of preferred stock, making a total of \$7,880,000. In addition, the commission is asked to authorize the new company to execute a mortgage securing the payment of \$3,000,000 of bonds and permit the new company to issue forthwith under such mortgage not to exceed \$900,000 of 6 per cent serial bonds for the purpose of securing moneys necessary to pay off prior liens, pay off non-assenting bondholders, provide working capital, pay such reorganization expenses as may not be paid otherwise and to pay cost of extensions, additions and betterments. The \$900,000 of bonds, if issued, will constitute a first lien upon the properties now owned by the Oakland, Antioch & Eastern Ry., Oakland & Antioch Ry. and San Ramon Valley R.R. At a former hearing, it was reported that about \$6,500,000 had been invested in the properties of these companies.

On June 26, 1919, the Railroad Commission authorized the corporation which might acquire the properties of the Oakland, Antioch & Eastern Ry., Oakland & Antioch Ry. and San Ramon Valley R.R. to issue not exceeding \$1,950,000 of first mortgage bonds bear-

ing interest at not more than 6 per cent and not exceeding \$1,330,000 of 6 per cent preferred stock and \$4,000,000 of common stock.

The reorganization plan contemplated that all of the stock and not exceeding \$1,330,000 of the bonds would be exchanged for outstanding bonds and indebtedness of the Oakland, Antioch & Eastern Ry., Oakland & Antioch Ry. and San Ramon Valley R.R. It was estimated that after the exchange of the stocks and bonds of the new company for bonds and indebtedness of the old company, there would be available for sale at least \$620,000 of the new company's bonds.

The reorganization committee found it impossible to market the bonds, and it therefore, on Nov. 12 asked the commission to modify its decision of June 26 so as to permit the new company to issue not exceeding \$4,000,000 of common, not exceeding \$1,330,000 of 6 per cent preferred stock, and not exceeding \$2,100,000 of bonds. The request of the company was granted on Nov. 19. The principal change introduced by the amendment to the reorganization plan was the proposed issue of a five-year 7 per cent bond instead of a twenty-year bond bearing interest at not more than 6 per cent per annum, and providing for the sale of \$770,000 instead of \$620,000 of bonds.

London Lines Reported Sold

It was reported from London on Jan. 3 that Speyer Brothers have sold their interests in the London Electric Rys. to Solly Joel, of Barnato Brothers, for £500,000. The Speyers became interested in London traction when the late Charles T. Yerkes undertook the electrification of the old steam underground railway and construction of several additional subway lines. He obtained considerable quantities of American capital to finance his schemes through the Speyer Brothers, of whose London house Sir Edgar Speyer, baronet, was head. Sir Edgar put through in 1912 a merger of the underground railways and the London General Omnibus Co. He was chairman of a group of companies until May, 1915, when he took up his residence in America. One of the press dispatches dealing with the sale says that special interest is taken in the sale of the Speyer holdings, as it comes on the eve of the application by the underground company to Parliament for authority to double its fares.

At the office of Speyer & Co. in New York inquirers were referred to Sir Edgar Speyer at his home in New York. Efforts to reach Sir Edgar himself were unavailing.

Valuation Elements Decided

"Going Value" Must Be Taken As Element of Valuation, Says State Supreme Court

The jurisdiction of the Public Utilities Commission in the fixing of rates for service, and the affirmation of "going value" as an element of valuation which must be included, are two questions which have been apparently definitely settled by two recent unanimous decisions of the Supreme Court of Illinois. The two decisions in point had to do with the Quincy traction case and the Springfield gas case. These two decisions are believed to clarify many points of controversy in the regulation of public utility companies and are thus considered of far-reaching importance.

CASES REVIEWED

In the Quincy traction case decision referred to in the ELECTRIC RAILWAY JOURNAL for Dec. 27, page 1,064 and Jan. 3, page 74, the court holds unequivocally that the powers of the Public Utilities Commission supersede all of the rate-regulating powers ever granted to municipalities in the State of Illinois. So called "contract ordinances" or other forms of rate contracts between municipalities and utility companies are of no avail, the court states further, because municipal authorities in Illinois have never been clothed with power to make binding contracts fixing rates for a definite term of years. Without this specific and definite power, municipalities could not make binding contracts under the general rate-regulating powers delegated to them by the Legislature prior to creation of the Public Utilities Commission. The net result is that the Public Utilities Commission has full power to change any public utility service rate in Illinois hitherto fixed by the local authorities.

"GOING VALUE" ALWAYS PRESENT

The principal feature of the Springfield gas case decision was the statement by the court that "going value" is always present, and is one of the elements that *must* be taken into account in the valuation of a public utility. The decision of the court goes on to discuss at length the elements to be considered in fixing rates, and makes it a prime duty of the Public Utilities Commission to see that rates are "just and reasonable." It explains that because a rate is not confiscatory, does not necessarily mean that it is just and reasonable.

The decision reads:

The real test of the justice and reasonableness of any rate seems to be that it should be as low as possible, and yet sufficient to induce the investment of capital in the business, and its continuance therein. An unwise administration of regulatory laws will drive capital from this field and bring on public calamity by causing the utilities to cease to function. It is equally important to the public and to the utility that the rates established be just and reasonable. A just and reasonable rate, therefore, is necessarily a question of sound business judgment rather than one of legal formula, and must often be tentative since exact results cannot be foretold.

In other words, it would seem to be the court's reasoning that the Public Utilities Commission should allow a utility company some latitude in its rates for meeting contingencies such as the fluctuating costs of material and labor, changing conditions affecting its

business, etc., rather than tie it hand and foot to arbitrary standards. The court goes on to emphasize this point by stating that "the commission cannot substitute its own business discretion or judgment for that of the directors of the corporation."

One-Third of Charges Paid

Testimony So Shows In Suit Brought Against Pittsburgh Railways by Philadelphia Company

The receivers for the Pittsburgh (Pa.) Rys., in the past eighteen months they have been in control of the company, have paid \$1,738,936 on the fixed charges of the company, or just about one-third of the \$5,153,673, made up mostly of bond interests, rentals and interest on notes. The figures were submitted by J. A. Meade, auditor for the company, in a hearing before the United States District Court on the action of the Philadelphia Co., parent company of the traction system, which seeks to recover \$1,272,452 that had been advanced on behalf of the traction company.

COMPANY ENTITLED TO RELIEF

Attorneys for the Philadelphia Co. urged upon the court that the Philadelphia Co. was entitled to relief through the funds in the hands of the receivers, who are using the property upon which the parent company is meeting fixed charges. Attorneys for the city of Pittsburgh and for certain of the active subsidiary companies in the traction system, argued that the fact that the Philadelphia Co., through guarantees it gave at the formation of the traction system, was forced to pay certain fixed charges did not constitute any reason why the receivers should be made to reimburse the Philadelphia Co. to the disadvantage of less favored creditors; further, they said, this action of the parent concern was being opposed by guaranteed as well as non-guaranteed creditors.

The receivers' books, according to Mr. Meade, showed the following situation on Dec. 1:

	Paid	Unpaid
Bond interest.....	\$1,126,430	*\$2,100,660
Rentals (for use of underlying companies).....	611,774	*784,947
Interest on various notes.....	732	539,131
Total.....	\$1,738,936	\$3,153,737

*Philadelphia Co. claims to have paid \$1,272,452 on these two items.

Attorneys for the Consolidated Traction Co., one of the subsidiaries, brought out in cross-examination of Mr. Meade that the receivers had \$2,237,000 in the bank at the close of business on Dec. 23, but counsel for the receivers immediately explained that this was only an apparent and not an actual balance. During the examination of the auditor, the attorneys drew this explanation:

That cash is like a man's pay envelope before he begins to pay the bills. We get our money in cash daily and pay it out at intervals. Out of that \$2,237,000, we must pay between now and the first of the year, \$900,000 more of the month's operating expenses, \$100,000 on pre-receivership supply bills, and on Jan. 1 we pay the State \$250,000 in taxes, a total of \$1,250,000, leaving \$1,000,000, roughly, for working capital. Out of \$1,000,000 we must meet accruing items. This will take the entire \$1,000,000.

Judge C. P. Orr asked attorneys for briefs. He will announce his decision later.

\$80,466,100 in Maturities

About 40 Per Cent of Grand Total of \$196,296,800 Utility Maturities in 1920 Fall to Electric Railways

While the number of public utility securities falling due in 1920 is unusually large, the aggregate is only \$196,296,800 against \$261,887,600 in 1919 and \$210,500,000 in 1918, according to the *Wall Street Journal*. During 1919 public utility bonds called in advance of maturity aggregated \$5,108,000. A feature of 1920 maturities is the large number of short-term obligations falling due.

Owing to tight money and other restrictions during the war period, utility corporations did not find it advantageous to issue long term bonds and were obliged to resort to short term notes to tide them over abnormal times. Should money become easier in 1920 doubtless many of the maturing obligations will be refunded with long term issues.

Below is given in detail, as compiled by Dow, Jones & Co., the various electric railway issues of more than \$200,000 maturing in 1920, in the order of their due date:

January	
Tol. Traction, Lt. & P. 2-yr. notes.....	7 \$10,500,000
Manchester Trac. Lt. & P. notes.....	6 1,500,000
United Light & Rys. notes.....	6 1,500,000
Little Rock Ry. & Elec. notes.....	6 600,000
New Bed., Middleboro & B. St. R.....	5 325,000
Lincoln Traction Ist.....	5 250,000
Lorain Street Ry. 3-yr. notes.....	6 200,000
Republic Ry. & Light 2-yr. notes.....	6 1,500,000
Total.....	\$16,375,000
February	
Georgia Ry. & Pwr. 2½-yr. notes.....	6 \$2,500,000
Richland Co. notes.....	7 759,000
Saginaw Valley Traction Ist.....	5 670,000
Washington Water P. 1-yr. notes.....	6 2,900,000
Total.....	\$6,820,000
March	
United Nat. Utilities 3-yr. notes.....	6 \$1,800,000
Worcester Consol. St. Ry. deb.....	4½ 700,000
Maumee Val. Rys. & Lt. Ist.....	4½ 500,000
Tol. & Maumee Val. Ry. Ist.....	5 300,000
Total.....	\$3,300,000
April	
Joplin & Pittsburgh Ry. gen.....	6 \$1,050,000
Lexington & Boston St. Ry. Ist.....	4½ 500,000
Det. & Lake St. Clair Ry. Ist.....	5 390,000
Wichita R.R. & Light Ist.....	5 300,000
Total.....	\$2,240,000
May	
Milwaukee E. R. & L. 2-yr. notes.....	7 \$2,000,000
St. Louis R.R. Ist.....	4½ 1,948,000
United Lt. & Rys. ser. A. notes.....	6 1,500,000
Sou. Ohio Trac. Ist cons.....	5 1,350,000
Canton-Massillon El. Ry. Ist.....	5 840,000
Dayton Trac. Ist extended.....	5 250,000
Prospect Park & C. I. inc.....	6 250,000
Total.....	\$8,138,000
June	
Tenna. Ry. Lt. & Pwr. notes.....	7 \$2,500,000
Monongahela Val. Tr. 1-yr. notes.....	6 2,000,000
Det., Roch. R. & L. Orion Ry. Ist.....	5 1,100,000
Chattanooga Ry. & Lt. notes.....	7 750,000
Total.....	\$6,350,000

July	
Columbus Ry. P. & L. 2-yr. notes.....	7 \$2,500,000
Middle West Utilities 3-yr. notes.....	6 1,000,000
C. North Shore & M. ser. notes.....	6 360,000
Houghton County St. Ry. Ist.....	5 267,000
St. Francois County R.R.....	5 250,000
Aurora, Plainfield & J. Ry. notes.....	6 200,000
Buff. Lock. & R. Ry. 2nd.....	6 200,000
Total.....	\$4,777,000

August	
Inter. Traction 3-yr. notes.....	6 \$2,000,000
West End St. Ry. debts.....	7 1,581,000
Gr. Rap. Hol. & L. M. R. Ry. Ist.....	5 1,475,000
Cleve. Elyria & West Ist.....	5 1,073,000
El Paso Electric 3-yr. notes.....	6 300,000
Cleve. & Elyria E. Ry. Ist ext.....	5 200,000
Ch., Nor. Sh. & Mil. 1-yr. notes.....	6 600,000
Total.....	\$7,229,000

September	
Middle West Utilities 3-yr. notes.....	6 \$1,000,000
Chicago & West Towns Ry. Ist.....	7 750,000
Ohio Traction notes.....	6 350,000
United Rys. of St. L. rec. cfs.....	6 2,300,000
Total.....	\$4,400,000

October	
Tol. Fostoria & Find. Ry. Ist.....	5 \$385,000
Total.....	\$385,000

November	
Mah. & Shenango Ry. & L. cons A.....	5 \$11,200,000
Scranton Ry. general.....	5 1,000,000
Middle W. Util. 3-yr. notes.....	6 782,100
Hagerstown & F. Ry. notes.....	6 550,000
Ma. & Shenango Ry. & L. cons B.....	6 550,000
Empire S. R. R. C. 3-yr. notes.....	6 350,000
Total.....	\$14,432,100

December	
Portland Ry. Lt. & P. notes.....	7 \$2,500,000
United Lt. & Rys. 1-yr. notes.....	7 1,500,000
Toronto Ry. 2-yr. notes.....	6 1,000,000
Ark. Valley Ry. Lt. & Pwr. notes.....	7 350,000
Brookton & Plymouth St. Ry. Ist.....	4½ 260,000
Citizens El. St. Ry. Ist.....	5 230,000
Ottumwa Ry. & Light notes.....	5 200,000
Total.....	\$6,040,000

Bonds and notes maturing in January..	\$16,375,000
Bonds and notes maturing in February..	6,820,000
Bonds and notes maturing in March....	3,300,000
Bonds and notes maturing in April....	2,240,000
Bonds and notes maturing in May.....	8,138,000
Bonds and notes maturing in June.....	6,350,000
Bonds and notes maturing in July.....	4,777,000
Bonds and notes maturing in August....	7,229,000
Bonds and notes maturing in September..	4,400,000
Bonds and notes maturing in October..	385,000
Bonds and notes maturing in November..	14,432,100
Bonds and notes maturing in December..	6,040,000
Totalelectric railway maturities....	\$80,466,100

Grant total public utility issues maturing in 1920.....	\$196,296,800
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Abandonments in San Diego

Read G. Dilworth, general counsel for the San Diego (Cal.) Electric Ry., notified the Council on Dec. 23 of the company's intention Jan. 1 to suspend operation of cars on the following lines:

Route No. 13—From Fourth and Spruce Sts. to Third and Broadway.
Route No. 8—From Twenty-fifth and F Sts. to Arctic and F Sts., thence to Arctic and Broadway; thence to State and Broadway; thence to State and F.
Point Loma line—On the loop between rington St. with Tennyson St. and the approximately the intersection of War-intersection of DeFoe with Santa Cruz Ave.

Appraisal of Memphis Street Railway

Study of Full Report Shows Unanimity of Opinion as to Basis of Valuation with Exception of Superseded Property Value and Method of Figuring Interest on Development Cost

On page 70 of our issue of Jan. 3 appeared a reference to the report of Albert S. Richey, who represented the Railroad & Public Utilities Commission of Tennessee in the appraisal of the Memphis (Tenn.) Street Ry. The full report together with statements by J. H. Perkins, representing the receivers of the company, and Ross W. Harris, representing the city, wherein they differ is now available and enables the publication of exact figures.

All of these representatives agreed not only on the entire inventory and unit costs but also on the moot questions of amounts to be allowed for omissions and contingencies, engineering and superintendence, franchise costs, law expenditures, interest, injuries and damages, taxes during construction, miscellaneous construction items including promoter's reward, cost of financing and working capital.

Using the commission's appraiser's figures as a basis the only real differences between the appraisals of the

tory was made by the company's representative, but under the joint and constant supervision of the three appraisers. A count was made of the various items of physical property in existence July 1, 1919, and classified according to the I. C. C. classification of road and equipment accounts. In many cases it was possible to list the items by actual inspection, while other items, such as the elements entering into track construction had to be listed from the company's records and then checked partly by inspection or through records of the City's Engineer's Office.

Information as to real estate owned was obtained from the deeds, and the prices put upon the various pieces was wherever ascertainable, the actual price paid. No allowance whatever was made for real estate valued at \$205,227, donated to the company. Where actual records were unattainable, values were fixed by a real estate appraiser selected by agreement between the receivers of the company and the commission's

"Roadway Machinery and Tools" and "Crossings, Fences and Signs" were allowed on all unit costs. The accompanying summary shows that the total cost of physical property as determined by the inventory together with percentages used for calculating the overhead costs.

DEVELOPMENT COST

"Development Cost" which is defined as the uncompensated cost incurred to bring the plant to a self supporting basis was held to be a logical sequel to "interest during construction," and entirely separate and distinct from "going concern value" and "franchise value," which items are rarely considered in a rate making appraisal. In determining the amount applicable to this item the property additions and renewal and replacement reserve were tabulated by years from 1892 to 1919. The amount of working capital for the various years, however, fixed at \$330,000 for 1919, was calculated retrogressively as proportionate to the yearly operating expense. The amount invested in the property, as determined in the appraisal, including the allowance for superseded property, but exclusive of any allowance for development cost, fixed the value of the property as of 1919, and from which the value for each year back to 1892 was calculated.

To determine the yearly percentage return the net yearly income applicable to interest and dividends was applied on the value of the property. Taking 7 per cent as being a fair return, the yearly deficit or credit both singly and cumulative was determined for the first 10 years of electric operation. This cumulative deficit or "Development Cost," as it was termed, amounted to \$787,579.

SUPERSEDED PROPERTY

The cost of superseded property was included under the theory that such property had either become obsolete or discarded through progress in the art or had become inadequate or rendered useless before the termination of its useful life and such property not having been amortized through income was entitled to a return. The early superseded property was therefore listed and cost prices assigned either from the company's records or by estimates. The company's records which were unusually complete were used entirely after 1905. Allowances were also made for salvage value and deductions on account of credits from the renewal and replacement reserve wherever possible.

The total amount found to be invested in superseded property, after deducting the present balance in the renewal and replacement reserve was \$2,596,487. Of this amount, however, \$665,943 represents cost of property, superseded prior to electrification in 1893, which Prof. Richey recommends be deducted in arriving at the proper allowance for superseded property. Of the amount—\$1,930,544—over 90 per cent is represented by property super-

SUMMARY OF APPRAISAL

Acct. No.	Item	
501	Engineering and superintendence (6% of 502-542)	\$428,872
502-542	Cost of physical property	7,147,873
545	Procurement of franchises (0.25% of 502-542)	17,870
546	Law expenditures (0.5% of 502-542)	35,739
547	Interest during construction [4% of (501-546) + 548]	307,359
548	Injuries and damages (0.75% of 502-542)	53,609
549	Taxes prior to operation [0.35% of (501-546) + 548]	26,894
550	Miscellaneous:	
	(a) Costs prior to construction [5.25% of (501-546) + 548]	403,408
	(b) Construction expenditures [2% of (501-546) + 548]	153,679
(X)	Working capital, including materials and supplies	330,000
(Y)	Cost of financing [1.5% of (501-550) + X]	400,739
(Z)	Development cost	787,579
	Total, excluding superseded property	\$10,093,621
	Superseded property	1,930,544
	Total valuation	\$12,024,165

three engineers are, first: Mr. Perkins compounded his interest in figuring development cost, and second, Mr. Harris reduced the amount of the investment allowed by omitting superseded property to the extent of nearly \$700,000, this resulting in wiping out the "Development Cost" item, for it becomes zero at the end of twelve years. However, the treatment of development cost by both Messrs. Harris and Richey were exactly the same, so far as the method of its determination was concerned.

With regard to depreciation, which Mr. Harris terms "functional supersession," all seemed to agree on the fundamentals laid down, namely, that no deduction should be made.

PHYSICAL PROPERTY

The basis used in making the appraisal was the original or historical cost of the property as of July 1, 1919, and in general the principles outlined by the Massachusetts Public Service Commission in the Middlesex & Boston Street Ry. rate case (2 Mass. P. S. C. Rep. 107) were followed.

By agreement, between the three parties of interested engineers, an inven-

engineer. The total real estate value so assigned, however, was only \$8,702.

Labor quantities and unit prices were, so far as possible, taken from the company's records, otherwise estimates prepared by the company's employees after being checked by the experience of the appraising engineers, were used.

Unit prices, including cost of freight and handling, taken from the company's records as for the time of installation, were assigned to each item in the inventory. Average prices were used only for cases of large quantities of a similar type of material such as cross-ties. To offset the probability that some parts of the items of tools and office furniture had been paid out of operating expense an arbitrary deduction of 10 per cent was made from the appraised value of all property listed under such accounts.

Due recognition was also given to probable omissions from inventory and to unavoidable construction losses, contingencies and to piecemeal construction. By agreement among the appraisers arbitrary additions ranging from 1 per cent on "Special Track Work" to 10 per cent on "Grading,"

seded since 1905. Prof. Richey also holds that inasmuch as the company has never had more than a fair return, which might have enabled it to amortize such property, that the net cost of superseded property since Jan. 1, 1893, as above, either be included in the cost of property entitled to a return or that the company be permitted to establish a suspense account and charge it to operating expense distributed on a period of ten to fifteen years.

DEPRECIATION

No allowance was made by the Commission's engineer either for actual depreciation or theoretical accrued depreciation, as Prof. Richey, after a careful inspection, was convinced that the property was nearly, if not quite, in a condition of 100 per cent operating efficiency, especially considering the difficulties in securing proper labor and material during the past two or three years. He contended that so long as the property was in such a state that no deduction should be made from the original cost in arriving at rate base, and further if no more than a fair return had been paid on the amount invested in the property, no deduction should be made for depreciation in any event.

Thursday, January 15 has been set by the commission for a hearing on this matter, and so far as the reports of the three appraising engineers are concerned, they have only two matters to decide, the amount to be allowed for "superseded property" and the question as to whether or not interest should be compounded in figuring development cost.

Providence Holders Confer

The general committee of security holders attempting to bring about a settlement of the railway situation in Providence met on Dec. 30. There were present on behalf of the bondholders of the United Traction & Electric Company, Philip L. Spalding and S. O. Metcalf; on behalf of the bondholders of the Rhode Island Suburban Ry., Cornelius F. Sweetland and Colonel H. Martin Brown; representing the United Traction & Electric Co. stockholders, Michael F. Dooley and Frederick S. Peck. Colonel Frank W. Matteson was present unofficially representing the New York, New Haven & Hartford R.R.

A plan was submitted by the bondholders of the United Traction & Electric Co. and a general discussion followed. According to unofficial reports sentiment was developed of earnest endeavor to get together on some plan with which to go before the Legislature. No decision was arrived at because the various subcommittees had to report back to their main bodies. It is said that these subcommittees will be immediately called together and that the entire group will meet again on Jan. 7.

All claims against the Rhode Island Company are listed and classified and

recommendations as to priority in their payment made in a report filed by the receivers in the Superior Court. With this report was filed a receivers' inventory, as of Oct. 31, 1919, bringing up to date the inventory made by Bacon, Ford & Davis in 1916. The report on claims, made in pursuance of a court decree of March 10, groups total claims of \$10,764,542, into eleven schedules, on some of which the receivers make recommendations regarding priority of liquidation.

Chicago Receipts Increase

Following the issuance of the 6-cent fare order, L. A. Busby, president, gave to the commission a report on earnings, expenses, traffic and wages for the Chicago Surface Lines for the month of November. This showed an increase over November, 1918, of \$1,500,698 in gross earnings, and \$1,081,074 in operating expenses, leaving net residue receipts of \$954,162. Of this amount the companies' share was \$786,991. Compared with a normal period, November, 1916, there was a decrease of \$65,689. Had the renewal fund been carried at 8 per cent of gross instead of 5.74 per cent, the decrease would have been \$164,312.

Revenue passengers, compared with November, 1918, showed a material increase due to the influenza epidemic of last year. The figures were 61,876,455, as against 56,363,005. The average fare per passenger, including free and transfer, was 3.97 cents, compared with 2.86 cents.

Total operating wages for the month amounted to \$2,002,435, or 46 per cent of the gross receipts, an increase of \$652,336 over November, 1918. Endeavoring to comply with the agreement to have 60 per cent of the runs on an eight-hour basis by Jan. 1, the companies had completed fifty-two of the new time tables, or 40 per cent of the whole, by the end of November. When this work has been finished 2,200 additional men will be needed to operate the cars. The full cost of bonus time and overtime will not be known for a month or so.

Increase in Receipts of Boston Elevated

The Boston (Mass.) Elevated Ry.'s receipts for the three days preceding Christmas reached a high mark in the history of this company. The gross collections for the three days exceeded \$100,000 a day. While these figures are abnormal, the general increase even for normal conditions is such as to cover the costs of service, including dividends, which amount to about \$88,000 a day.

It is improbable that the favorable balance will result in a reduction of the 10-cent fare in the near future as the outstanding loan of \$4,000,000 obtained from the State, together with a \$1,000,000 reserve fund has been used up and the law requires that this deficit must be removed before the fare can be lowered.

Maine Line Reorganized

Lewiston, Augusta & Waterville Street Railway Has Been Succeeded by Androscoggin & Kennebec Railway

The report has been confirmed which appeared in the ELECTRIC RAILWAY JOURNAL for Jan. 3, page 73, that the Androscoggin & Kennebec Ry. has succeeded the Lewiston, Augusta & Waterville Street Ry., the property of which was sold under foreclosure some time ago. In fact, the Androscoggin & Kennebec Ry. took possession of the property on Oct. 1.

RECEIVERS APPOINTED IN 1918

The Lewiston, Augusta & Waterville Street Ry. was petitioned into receivership upon a creditor's bill brought by the Cumberland County Power & Light Co., Cumberland, Maine, on Dec. 16, 1918, and William H. Newell and Alfred Sweeney, were appointed receivers.

On July 1, 1919, the Old Colony Trust Co., Boston, Mass., trustee of the first and refunding mortgage 5 per cent bonds of the Lewiston, Augusta & Waterville Street Ry. foreclosed under the provisions of the mortgage.

The property was sold at public auction on Sept. 5, 1919, by a special master appointed by the court and was bid in by a committee representing the bondholders of the Lewiston, Augusta & Waterville Street Ry.

BRANCH DISCONTINUED

The receivers of the Lewiston, Augusta & Waterville Street Ry. had endeavored to be relieved of the operation of three branch lines, namely, the Augusta-Winthrop, Augusta-Togus, and the East Auburn-Turner lines. The first two lines were covered by an underlying mortgage, and on account of the protest by the holders of the securities, the discontinuance of the lines could not be effected. The East Auburn-Turner line, however, was under the mortgage of the Lewiston, Augusta & Waterville Street Ry. only, and it was sold as a separate parcel and bid in without the franchises. This line, therefore, has not been operated since Oct. 1.

COMPANY'S STATEMENT OF NEW CAPITALIZATION

The Lewiston, Augusta & Waterville Street Ry. had outstanding capital stock of \$3,000,000 and bonded debt of \$3,659,000. The successor company, the Androscoggin & Kennebec Ry., has outstanding \$3,176,700 of stock, and \$1,345,000 of bonds, or capital liabilities totaling \$4,521,700.

In consequence of the discontinuance of operation of the so-called Turner line, the mileage figure of the electric railway property as at present operated is slightly less than that of the predecessor. The mileage of the Androscoggin & Kennebec Ry. is 157.165 miles, whereas the mileage of the original property as operated by the Lewiston, Augusta & Waterville Street Ry. was 165.909 miles.

Financial News Notes

Kansas City Director Resigns.—R. J. Dunham, vice-president of Armour & Company, has resigned as a director of the Kansas City (Mo.) Railways.

Application to Foreclose Granted.—The applications made to the court to abrogate leases of the Shore Line Electric Ry., Norwick, Conn., made with the Connecticut Co., and to foreclose the Shore Line property, referred to in the *ELECTRIC RAILWAY JOURNAL* for Jan. 3, page 70, have been granted by Judge Warner.

Car Trust Certificates Authorized.—The Board of Public Utility Commissioners has granted permission to the Morris County Traction Co., Morristown, N. J., to issue \$58,000 of car trust certificates for the purpose of making part payment on fourteen one-man cars. The board has also authorized the company to dispose of ten old cars.

January Coupon Not Paid.—The committee on securities of the New York Stock Exchange has ruled that the New Orleans Railway & Light Co.'s general mortgage 4½ per cent bonds, due 1935, be quoted ex the July 1, 1919, coupon on Jan. 5. Hereafter said bonds must continue to be dealt in flat. It was announced that the coupon due on Jan. 1, 1920, would not be paid on that date.

Cleveland Dividend Increase Approved.—The City Council of Cleveland, Ohio, on Dec. 29 formally granted the Cleveland Ry. the right to increase the dividend rate on its stock from 6 per cent to 7 per cent in accordance with the recommendations of the arbitration board reviewed at length in the *ELECTRIC RAILWAY JOURNAL* for Jan. 3, page 71. The vote was eighteen to eight to amend the Taylor service-at-cost franchise grant to this effect.

Kansas City-Western Ordered Sold.—The Kansas City-Western Ry., known as the Leavenworth interurban line, has been ordered sold on Feb. 16 by Federal Judge John C. Pollock. The sale will be held by William Holmes, master in chancery. The order of the court was in answer to a plea in behalf of bondholders filed by the Guaranty Trust Co., New York, trustee, under a mortgage securing bonds issued by the company.

Operation Authorized.—The Public Service Commission for the Second District of New York has authorized operation and maintenance by the Erie County Traction Corporation of the former Buffalo Southern Ry. and it has also approved exercise of franchises of the former corporation. The road has been in operation for several years and

the Erie company acquired it at foreclosure sale. Chairman Charles B. Hill, who heard the company's petition, says continued operation of the road is necessary and convenient for the public.

Operation Continued With Subsidy.—The bondholders' committee of the Ocean City (N. J.) Electric Ry. has agreed to continue operating the road for the present under the agreement entered into last fall, the city paying \$100 a month and the board of education a like sum a month to the company in order that the children might thus be conveyed to the schoolhouses. The city will later hold a special election to determine the matter of transportation for residents and visitors during the coming spring and summer.

Let the City Do It.—J. W. Shartel, general manager of the Oklahoma Railway, was recently quoted as saying: "If the citizens of Oklahoma City can run the railway at a profit, I wish to heaven they'd take the line and do it." Mr. Shartel, however, pointed out that this was his official view only. Personally he does not believe that a city-owned railway system could be made to pay. As a citizen he would vote against such a move. Neither does he anticipate that if the question went to a vote the people would actually favor city ownership.

Reorganization Securities Authorized.—The Erie County Traction Corporation has been authorized by the Public Service Commission, for the Second District of New York, to execute a mortgage on its property, the former Buffalo Southern Ry., to secure its first mortgage bonds and to issue under the mortgage \$100,000 in 6 per cent fifty year or Series A bonds and \$150,000 in twenty-five year Series C income bonds. The company is also authorized to issue \$450,000 in common capital stock. The securities authorized, or their proceeds, \$700,000, are to be paid to the purchasers, representing bondholders, at the foreclosure sale of the former Buffalo Southern Ry. for the railway, compensation for the amount which the purchasers bid at the sale, to pay receivers' debts and reorganization expenses.

Sale of Huntington Road Approved.—The sale of the property of the Huntington (N. Y.) R.R. by Receiver Wallace E. J. Collins to William A. Dempsey has been confirmed by Supreme Court Justice Faber. Following the sale, to which reference was made in the *ELECTRIC RAILWAY JOURNAL* for Jan. 3, page 72, opposition developed to the confirmation of the transaction. On this point the court ruled in substance that the best interests of the creditors and stockholders of the company were apparently conserved by the sale and that the court was not concerned with the disposition of the property by the purchaser after confirmation. The objection was that the property or at least some of it might not be continued in operation. Justice Faber said that this question of convenience to the residents was not before the court.

Court Approves Accident Settlements.

—An order of the United States District Court, authorizes the payment of approximately \$40,000 in judgments against the Memphis (Tenn.) Street Ry. at a discount of 25 per cent. The judgments represent, principally, verdicts against the company for personal injuries received by a number of plaintiffs in damage suits. A statement says: "This amount does not include all outstanding claims against the company, nor does it represent the total indebtedness of the concern. It only represents the sum to be paid in settlement of claims in damage suits which were decided against the company. This means that all verdicts for damages granted plaintiffs in suits against the company prior to the time the court order became effective, will be paid by the receivers on a basis of 75 per cent of the amount named in the verdict or judgment."

Appraisal Nearing Completion.—Stone & Webster practically have finished their appraisal of the physical valuation of the lines of the New York (N. Y.) Rys. Although only approximate figures are available at this time, it is declared the report will show that the physical valuation of the railway in 1914 was in the neighborhood of \$85,000,000, and in 1919, based on reproduction and replacement of all the elements entering into the physical composition of the system, is, in round figures, \$140,000,000. This enhancement in value makes allowance for depreciation of rails and equipment, but does not take into account the former value of the special franchises—\$16,000,000—on which the corporation has been paying taxes as a going concern. The enhancement represents what it would cost to replace the physical factors of the system on the present-day basis of high prices for labor and materials.

Assistant in Receivership Case.—An order entered into the United States District Court by Senior Circuit Judge Walter H. Sanborn, reassigning Judge D. P. Dyer to serve as assistant to Judge Charles B. Faris, will relieve Judge Dyer of the duties of handling the receivership suit affecting the United Rys. of St. Louis. The receivership suit is thereby transferred to the jurisdiction of Judge Faris, in as much as the order authorizes Judge Dyer to handle all cases but equity cases, under which classification the United Railways suit comes. All orders for expenditures and approval of monthly reports of Receiver Wells have been made in the past by Judge Dyer. He appointed Mr. Wells receiver on April 12, 1919. Since that time all expenditures and reports have been submitted to him for approval. The reports were first submitted to Judge Henry Lamm, special master, who acts upon them and then sends his recommendations on to Judge Dyer. The final approval, however, rested with Judge Dyer.

Traffic and Transportation

City Lines Need Increase

San Francisco Municipal System Must Have Higher Fares to Continue Paying Present Wages

The Municipal Ry. of San Francisco, Cal., will be obliged to raise its fare in the near future if it is to continue to pay the wages now in effect on its lines. This fact was brought out at the meeting of the Board of Supervisors on Dec. 29, when the question of securing funds to meet the deficit incident to the present wage-scale came up for consideration.

Payment of the present wages is resulting in a deficit which must be made up either from the depreciation fund or from increased revenue, it was shown at the meeting. Each month the board by resolution has appropriated more than \$11,000 from the depreciation fund to make possible the \$5 daily wage paid to platform men. It is felt that this deficit cannot continue to be met in this fashion, and that the only solution is an increase in fare.

The matter was brought to a head when Supervisor Power asked that the board devise a proper method for securing the money, declaring that the depreciation fund could not be used for this purpose. In urging the necessity of securing funds from some other source, Mr. Power said:

This is a haphazard method of financing. There is no use fooling ourselves. If we keep on doing this it will not be long before the depreciation fund is exhausted and we will find ourselves in a sorry predicament. Any taxpayer could prevent this being done, as it is against the law.

The Supervisors did not enter into a discussion concerning increased fare, but voted to have the judiciary committee devise a new method of securing the necessary funds rather than take them from the depreciation fund. It is reported that the depreciation fund consists of \$667,886 invested in bonds and \$411,131 in cash with \$147,894 in the injury insurance reserve.

If the fare is raised on the city-owned lines, an increase in the rate charged by the United Railroads of San Francisco will be in order. It is felt that the charging of different rates by the two companies would turn much of the traffic to the privately-owned lines. City ownership of the entire electric railway system of San Francisco is seen by some as the best way out of the difficulty. This attitude is taken by the San Francisco *Chronicle*, which said editorially on Dec. 31:

The municipal railroads are no longer paying their way and cannot be made to pay it except by raising their fares. Raising the fares tends to reduce traffic for short distances, which are the money-making fares on all street railroads. To raise the fares on the municipal roads and not permit it on the competing roads would turn all competitive traffic to the cheaper lines. And the competitors, if authorized, may conclude that it is more

profitable to get the increased traffic drawn from the high-fare lines than to raise their fares to correspond. Probably, however, they will raise their fares.

As was inevitable the politicians whom we elect to manage our business do not dare to face the issue squarely. They have been boasting that under municipal management the 5-cent fare could be continued indefinitely. They are afraid of the people if they raise the fares.

Under municipal ownership, managed by politicians, the roads are inevitably run to pay the highest possible wages to the largest possible number while maintaining low rates of fare—possible or impossible. Foreseeing all this the *Chronicle*, while the question was open, opposed municipal ownership.

When the people decided otherwise the question was closed and the *Chronicle*, now that we have the roads, desires them to be operated in the best manner possible and to earn all the money they can for the municipal treasury. Since we have started the city should own the entire system operating in the city. We must make the best of the bargain.

Afraid to raise the fares the Supervisors, regardless of law, have been making up deficits in operation from the depreciation fund. That means that a few years hence the people must be taxed for replacements which that fund was created to pay for. It was shocking financing, the result cowardice.

There is but one way to make the Municipal lines pay their way. * * * And we may as well face it.

Louisville Asks Seven Cents

The officials of the Louisville (Ky.) Ry. have notified Mayor Smith that, unless the company is granted an increase in fare to 7 cents with a 1-cent charge for each transfer, the company may be forced into receivership in the near future. To reduce operating expenses the directors may decide to discontinue service on one or more of the cross-town lines. The abandonment of these lines is considered to be the alternative to a fare increase.

The company's plight was made known at a conference between Mayor Smith and three directors of the Louisville Ry. on Dec. 30. It was estimated at the conference that a raise of fare from 5 cents to 7 cents, with an additional cent for every transfer issued, would increase the company's revenue 15 per cent. This alone will not save the company, it was declared by some of those present, the point being made that the service must be improved to a point where the company may gain the good will of the public.

The recent strike of the car employees cost the company, it was said, \$500,000. No account of the strike is to be taken by those endeavoring to ascertain whether it is imperative to grant the company the right to increase fares. As a result the period during which the strike was on is to be eliminated entirely from the calculations to be made. A question arose during the conference as to whether the poor showing made by the company in November and December was due to after-results of the strike, or whether it represented a natural falling off in business.

Formal Applications Filed

New York Companies Ask Board of Estimate for Conference with View to Fare Increase

Three of New York City's traction corporations now in the hands of receivers on Jan. 7 formally applied for permission to raise their fares. The requests took the form of applications to the Board of Estimate from Lindley M. Garrison, receiver for the Brooklyn Rapid Transit Co.; Job E. Hedges, receiver for the New York Rys., and James R. Sheffield, trustee of the Interborough Consolidated Corp., for a public hearing to consider a plan for the temporary relief of the companies.

Each of the receivers in his application for relief outlined the trying conditions under which the companies are operating and pointed out the fact that unless more revenue is obtained immediately disintegration of the city's transit system is inevitable.

In the case of the Brooklyn Rapid Transit Co., Mr. Garrison declared that complete suspension of the company's elevated, surface and subway lines is threatened. The plans followed closely the proposals made by Judge Julius M. Mayer, published in the issue of the *ELECTRIC RAILWAY JOURNAL* for Jan. 3, page 75.

Meanwhile the Board of Estimate has undertaken an investigation of the transit situation on its own account. The board took action at the instance of Controller Craig, who on Dec. 30 submitted a plan for the solution of the companies' difficulties. The board's action in deciding to conduct an independent inquiry was referred to briefly in the last issue of this paper.

Comptroller Craig's plan was drawn up along the lines of that suggested several months ago by Public Service Commissioner Lewis Nixon, who advocated a single operating company for the entire city, and the plan of Construction Commissioner John H. Delaney, which provided for eventual city ownership and operation.

Comptroller Craig's plan is for the city to take over all of the securities outstanding against the traction properties, adjust them to fit the precise amount represented by the physical values of the plants used in operating the lines, issue some form of certificate which will operate as a first lien upon the properties and take precedence even of the wages of employees, and then to set aside certain amounts of money each year to retire the certificates or whatever other form of security the city issues.

Both Mr. Delaney and Mr. Craig are in disagreement with the statement of Federal Judge Mayer that there was no way in which the city could get possession of the lines without the outlay of a large amount of money, for both of their plans provide for the immediate transfer of the securities to the city and for the costs to be met out of operating income and not at once out of the city treasury.

Baltimore Fares Again Advance

Commission Authorizes Seven-Cent Straight Fare, Following Company's Urgent Plea—Former Rate Insufficient

A straight 7-cent fare became effective in Baltimore, Md., on Jan. 1. The increase was authorized by the State Public Service Commission on Dec. 30, after it had heard the plea of the United Rys. & Electric Co. for a return greater than that provided by the rate of 7 cents cash with four tokens for 25 cents which had been in effect since Oct. 1, 1919. The straight 7-cent fare is expected to continue during 1920.

The commission announced its decision immediately after the conclusion of the hearing. The company had applied for a flat 7-cent fare on the ground that it could not re-establish its credit on the 6.5 rate. The hearing which was held on Dec. 30 occupied the entire day. On the same evening the commission announced that the company's plea had been granted.

This is the third occasion on which the commission has authorized the company to raise its fare. On Oct. 1, 1918, the rate was increased from 5 cents to 6 cents. A year later the fare was advanced to 7 cents cash, the ticket rate being placed at 6.5 cents. The hearing held on Dec. 30 was in reality a continuation of the case heard by the commission last October, so that the commissioners were thoroughly familiar with the results which had been obtained during the past three months.

COMPANY RUNNING BEHIND

At the hearing on Dec. 30 the company produced figures to show that it was running behind the estimates of earnings applicable to surplus, on which the 6.5-cent rate was adopted. It presented evidence proving that, instead of having \$1,000,000 net return at the end of one year of operation at a 6.5-cent fare, its books would show an actual deficit. The commission in fixing the rate last fall, had decided that the company was entitled to \$1,000,000 in net return. The only witness for the company was President Emmons, who took the stand after a statement by Edwin G. Baetjer, of counsel for the company, as to the results of the operations under the 6.5-cent fare, and of the additional financial burdens placed on the company by the increase in the municipal tax rate, the increased cost of coal and other materials and the increased cost of securing money which the company requires.

Joseph C. Goldsmith, counsel for the city, made no objection to the increase in the fare. He stated, however, that he thought the company ought not to be allowed to accumulate a depreciation reserve, in view of the necessity of reconstructing a large part of the road, but that the money ordinarily applicable to depreciation reserve ought to be used at once to make good depreciation that already has occurred. This, Mr. Baetjer stated, was the intention of the company.

At the conclusion of the hearing, Chairman Reifsnider and Commissioner Legg stated that in view of all the features of the case, they thought it might be better to grant the company the amount of fare it asked for in order that its credit might be re-established, and to hold it to a strict accounting, both as to revenues and service, than to cut the figure a fraction of a cent and face the possibility of the company again coming before the commission with a request for an increase. The entire commission felt that it was preferable that the matter be settled promptly so that the public, as well as the company, would know where it stood, than to have the matter hanging fire even for a day.

MR. EMMONS TESTIFIES

The commission showed some sympathy with the problems with which President Emmons, the new executive of the company, is confronted, and gave every indication of a willingness to give him the opportunity to make good. In commenting upon the commission's award, Mr. Emmons said:

It is now up to the company to make good, and to convince the people that they are getting the full value of their money in the service the company gives them. We hope to improve the service in a number of directions, and this improvement will be just as rapid as we can make it. The full effect of these improvements cannot

be felt until we are able to complete some rather extensive reconstruction work, but we intend to push this work just as fast as it is possible for us to do so.

In the course of the hearing considerable time was devoted to the discussion of depreciation. Mr. Emmons said that the repairs made last year were no more than should ordinarily have been made; that there were about 26 miles of track that would have to be reconstructed, and, even allowing that the life of the track would be twenty years, with more than 400 miles of track in the company's system, about 21 miles would have to be renewed every year. Then, if the life of a car were put at twenty years, it would mean the purchase of 100 new cars a year, and these two items alone would mean \$2,260,000 a year.

Figures were shown to indicate that the charges for maintenance and depreciation in Baltimore were lower than in most other cities. In the previous hearing John E. Zimmerman, the company's agent, maintained that the company ought to be allowed for depreciation 3 per cent and for maintenance 9 per cent of gross revenues, whereas Mr. Emmons said that he thought the company could get along on between 9 and 10 per cent for both depreciation and maintenance.

Under the 7-cent fare it is expected that the company will earn a surplus of something more than \$1,000,000, which the commission and the company officials figure is necessary to the maintenance of the company's credit.

Muscatine Relents

City Walked for Six Weeks Before Public Forced Authorities to Grant Relief to Railway

The 7-cent fare went into effect on Jan. 5, in Muscatine, Ia., on the lines of the Clinton, Davenport & Muscatine Ry., which operates the city system there in connection with an interurban line from Muscatine to Clinton, Ia. The increase, approximately a 40 per cent raise, was voted at a special election of the Muscatine electorate on nearly a four to one basis on Dec. 23. The total vote was: Yes, 1,933, No, 530.

The fare increase was in the form of a franchise amendment. It carried by large majorities in every ward in the city, even in the socialist wards which have been the seat of hot opposition to the company in months past.

On Jan. 2 the Council passed the new ordinance on third and final reading. The new rates are in effect until June 1, 1921.

The increase is not to a flat 7-cent basis. A workingman's ticket similar to the one formerly in use is also allowed. These tickets are sold in books fifty for \$2 or at a 4-cent rate. These tickets are good between the hours of 5 to 8 a.m. and 5 to 7 p.m. The old workingman's rate was fifty tickets for \$1.50. The former straight fare was 5 cents.

No charge is made for transfers under the new ordinance as was form-

erly the case. Children under six years when accompanied by an adult ride free and between the ages of six and twelve years pay a 4-cent fare.

The special election showed a change in the attitude of the public toward the company that is extremely interesting in present day railway transportation. From Aug. 1, 1919, until a few weeks before the election the Muscatine city authorities had fought the company at every turn. Business interests had favored a fare increase, but had not been strong enough to make their wishes felt.

Transportation on the railway stopped on Aug. 1 when the men went on strike on the entire Tri-city Railway System. Other communities on this system, Davenport, Rock Island, Moline and East Moline, promised a 7-cent scale on Aug. 6 and transportation was resumed in those cities. But in Muscatine the city authorities fought the company until foreclosure on unpaid notes of the Clinton, Davenport & Muscatine Railway held by the Tri-City Railway was threatened. Muscatine then agreed to call a special election and service was resumed after suspension for six weeks.

The public more than made good its pledge. The company made no efforts

to push the rate increase through. Civic interests united for the work. Men's and women's clubs, church organizations, civic organizations, lodges and business interests united to back the increased fare provided for in the new ordinance.

A strong advertising campaign was carried on by these civic bodies in the press and in motion picture houses. Public addresses were made by leading business men. The company threw open its books for inspection and audit by city authorities. There was not a high official of the company in the city on the day the vote was cast. Passing of the amended franchise was celebrated as a city victory.

B. J. Denman, president of the company, voices official satisfaction in the following statement:

We are gratified at the change of public opinion toward traction companies. The increased fare will not bring us a profit, but it will enable us to about break even with increased expense of labor and materials. An adverse vote would have forced us to discontinue service in Muscatine. We are pleased to continue that service and take it as an especially hopeful sign that the increased fare ordinance was carried by a large popular majority with our company keeping its hands off and city-wide interests backing the increase in the spirit of public policy.

Frank T. Hulswitt, president of the United Light & Railways Co., of which the Clinton, Davenport & Muscatine Railway Co. is a subsidiary, likewise commented on the Muscatine vote as a sign of a change in the attitude of municipalities toward public service corporations.

The section of the ordinance of 1905 fixing fares which has been repealed read as follows:

Sec. 17. The said company shall have power to establish such rates of fare for the transmission of passengers over their road as they may deem proper and expedient; provided, however, that the charge for carrying one person from one terminus of the entire line to any other terminus thereof, including the right of transfer, shall not exceed five (5) cents, excepting that the said company shall issue in booklets of fifty (50) tickets, with rights of transfer good on any car between the hours of 5 and 8 a.m. and between the hours of 5 and 7 p.m. and shall not charge more than 3 cents per fare or \$1.50 for said booklet. Children under six (6) years of age, accompanied by an adult, shall be carried free. Children from six to twelve years of age shall be carried for a fare of 3 cents.

In the place of Sec. 17 the Council has ordained as follows:

The said company shall have power to establish such rates of fare for the carriage of passengers as it may deem proper. It is provided, however, that the charge for carrying one person from the terminus of any line in the city of Muscatine to the terminus of any other line therein, including the right of transfer, shall not exceed the sum of seven (7) cents. It is further provided that the said company shall issue booklets containing fifty (50) tickets each, with rights of transfer, to be sold for not more than two dollars (\$2) for each booklet, which tickets shall be good for the passage of the individual owner of the booklet upon any car of the company between the hours of 5 a.m. and 8 a.m., and between the hours of 5 p.m. and 7 p.m., said tickets not to be good unless detached from the booklet in the presence of the motorman. Children under the age of six (6) years, when accompanied by an adult, shall be carried free. Children of the age from six to twelve years shall be carried for four (4) cents, or two children of such age for seven (7) cents.

Sec. 3. It is understood that the rates of fare fixed and permitted by this ordinance relate only to the ordinary street cars of the company operated upon the lines within the city of Muscatine, and not to the interurban cars of the Clinton, Davenport

& Muscatine Ry. when operated within the said city.

Sec. 4. The rates of fare provided for in this ordinance shall be in force and effect from and after its passage and adoption by the City Council of the city of Muscatine, its publication as required by law and its acceptance by the company and shall continue in force and effect until the first day of June, 1921.

Sec. 5. From and after the first day of June, 1921, during the life of the franchise under which the company operates, the rates of fare to be charged and collected by the said company, shall be as in this section provided:

The said company shall have power to establish such rates of fare for the transmission of passengers over its road as it may deem proper and expedient; provided, however, that the charge for carrying one person from one terminus of the entire line to any other terminus thereof, including the right of transfer, shall not exceed five (5) cents, excepting that the said company shall issue in booklets of fifty (50) tickets, with rights of transfer good on any car between the hours of 5 and 8 a.m., and between the hours of 5 and 7 p.m., and shall not charge more than 3 cents per fare, or \$1.50 for said booklet. Children under the age of six (6) years, when accompanied by an adult, shall be carried free. Children from six to twelve years of age shall be carried for a fare of 3 cents.

Washington Wants More

Company Asks Straight Seven-Cent Fare—Running Behind More Than \$366,000 a Year

The Washington Railway & Electric Co., Washington, D. C., has filed an application with the Public Utilities Commission of the District of Columbia for a straight 7-cent fare and an additional charge of 2 cents for transfers. Despite the fact that the company was granted an increase in fare on Nov. 1, 1919, it is maintained that that increase does not allow the company to earn 6 per cent on its investment.

In the petition filed with the commission, it was pointed out that when the fare was fixed at four tickets for 25 cents or 7 cents cash, the company needed \$850,000 a year in additional revenue to pay a fair return on its property. After two months at the increased fare, the petition states, it is apparent that the increased revenues are falling far short of the estimates of the commission.

The attention of the commission is called to the following facts: that the sale of 2-cent intercompany transfers has fallen off 29 per cent since Nov. 1; that the number of pay passengers has fallen off 6.8 per cent; and that only 9.8 per cent of the total passengers pay the 7-cent cash fare as compared with an estimate of 13.3 per cent made by the commission.

The petition says in part:

During the months of November and December, during which latter month the traffic was unusually heavy on account of the Christmas holidays, total passenger earnings within the District of Columbia have amounted to an average of \$14,109.11 per day, as compared with an average in October, 1919, of \$12,785.57 per day. This is a daily increase of \$1,323.54, equal to 10.3 per cent. If this increase were to continue throughout the year it would amount to \$483,092, which is \$366,908 less than the \$850,000 increase which the commission stated was necessary in order for us to earn a 6 per cent return on their valuation.

Officials of the Capital Traction Co. said they would not ask for an increase in fare unless they were directed to do so by the commission.

A Straphanger's Philosophy

This Editor Likes to Ride, Calls the Electric Car His Club, and Says So

The ideal straphanger has been found. His name is William L. Wilder. He lives in Pueblo, Col. Incidentally, he edits the Pueblo *Chieftain*. Unlike most editors, he thinks a daily newspaper has other functions than that of berating the local electric railway. He believes that the motorman, the conductor and even the general manager are human beings. He really enjoys his daily trips in the cars of the Arkansas Valley Railway, Light & Power Company. He wouldn't think of riding in a jitney. He even says these things in his newspaper.

CAR AN "ELECTRIC CLUB"

The fare in Pueblo was recently raised to 6 cents. Mr. Wilder, instead of taking the occasion to harangue his fellow Puebloans on the iniquities of the local management, Wall Street and the capitalistic system in general, devoted a whole column in the *Chieftain* to telling them that the life of a straphanger might be worse, after all. He called the electric car his club, and the other riders his fellow members. Here are some of his thoughts about this trolley-club:

Sure, I belong. In my share of the course of human events I have been a joiner many times, but my most satisfactory experience in that line was when I entered the Ancient, Honorable, Imperial and Democratic Consolidated Order of the Sixcenters. It is a large order in more senses than one.

Anybody can get in, for we are not at all exclusive. Anybody who stays out has nobody to blame but himself, and I really feel sorry for the outsiders who shut themselves out of our society and miss all the pleasant companionship and associations of our lodge and club room.

Oh, yes; we have an elegant club room, electrically warmed and lighted, well furnished, well ventilated, artistically decorated with pictures and a library of universal knowledge equal to the best. And the surprising thing is that our club room is movable, so that we go from place to place according to our pleasures and necessities, quite in the fashion of the magic carpet of the Arabian Nights. Honest, we do.

Our attendants, or rather our club officers, for we follow the democratic plan of giving the chief honors to those who do the most service, are in uniform. The Captain, or Outside Sentinel, is constantly on guard at the door and admits us upon payment of the regular dues of one white and yellow chip. To save bookkeeping, dues are payable upon every entrance and thus no members are in arrears.

Within the clubroom democratic comfort and simplicity are the rule. We talk, argue, exchange friendly salutations, remark sagely upon the state of the weather, discuss the news of the day, or educate ourselves by absorbing the information that is contained in our library that is displayed openly for our convenient study. Therein we are advised, commanded or entreated to do all, or nearly all the things that are necessary to the successful conduct of our daily affairs.

Some of the best people of the city belong to the Sixcenters, in fact all of them do, I believe. The dinner pail degree members are there in large numbers, particularly at certain times of the day, and I sure wish that all I write had as much good sense and Americanism in it as some of the talks I have heard from these brothers of our lodge in the 6-cent clubhouse.

To and fro throughout the day and far into the night, the moving clubhouses of our order go, bearing the work and the pleasure, the griefs and the joys, the successes and the failures of our city. They have their part in all that makes life worth living, in all that makes life worth losing. I pity the man or the woman that doesn't ride in the street cars.

12643

Transportation News Notes

Six Cents in Houghton.—The Michigan Public Utilities Commission on Dec. 23 authorized the Houghton County Traction Co., Houghton, to charge 6-cent fares for a ride in each zone. The former rate was 5 cents per zone.

Suspends Increase on Ohio Line.—The Public Utilities Commission of Ohio has suspended a schedule of the Scioto Valley Traction Co., Columbus, Ohio, under which the latter proposed to increase fares on Jan. 1. The new rates are suspended pending further hearings before the commission.

Ten Cents in Tacoma.—The State Public Service Commission has notified the city authorities of Tacoma, Wash., that 10-cent fares will go into effect on the lines of the Tacoma Ry. & Power Co. on Jan. 18. The increase will be made pending successful protest to the commission. The present fare is 7 cents.

Would Charge Seven Cents in Morristown.—The Morris County Traction Co., Morristown, N. J., has applied to the State Board of Public Utility Commissioners for permission to raise its fare from 6 cents to 7 cents. The company asks that the 3-cent fare for school children be increased to 3.5 cents. It proposes to put the new schedule into effect on Feb. 1.

Asks Six Cents in Sandusky.—The Lake Shore Electric Ry., Cleveland, Ohio, has applied to the City Commission of Sandusky, Ohio, for permission to charge 6-cent fares on its lines in that city. The present fare is 5 cents, with six tickets for 25 cents and free transfers. The company proposes to sell five tickets for 25 cents and to charge 1 cent for each transfer.

Trenton Wants Buses.—The City Commission of Trenton, N. J., has taken under consideration the proposition of allowing jitney buses to operate through the streets of Trenton. Since the Trenton & Mercer County Traction Corp. was granted permission to increase the fare to 7 cents, several applications have been received by the commission for licenses.

No Charge Allowed for Transfers.—The Public Service Commission for the Second District of New York has denied the application of the New York State Rys. for permission to charge 2 cents for transfers in Rochester. The commission held that under the decision of the Court of Appeals in the Quinby case, the commission could not grant the relief desired by the company.

Eight Cents in Aurora and Elgin.—The Public Utilities Commission of Illinois has authorized the Aurora, Elgin

& Chicago R.R. to charge 8-cent cash fares in Elgin and Aurora. Tickets will be sold at the rate of seven for 50 cents and fifteen for \$1. The present rate of 6 cents has been in effect for a number of months. The company is considering placing forty one-man cars in operation in Elgin.

No Fare Advance in Cincinnati.—Owing to the fact that the Cincinnati Traction Co. was able to secure a \$2,500,000 loan for the liquidation of its deficit, fares in Cincinnati did not advance on Jan. 1. The company had announced that, unless the loan were secured, fares would advance from 7 cents to 7.5 cents on that date. The company operates under a cost-of-service franchise providing for the automatic adjustment of fares.

Rehearing on Milwaukee Fares.—Judge E. Ray Stevens of the Dane County Circuit Court has ordered the Wisconsin Railroad Commission to reconsider its recent order under which it permitted the Milwaukee Electric Ry. & Light Co. to raise its fare from 5 cents to 7 cents. The city of Milwaukee had appealed to the court from the commission's order on the ground that the company had earned more than the 7.5 per cent allowed by the commission.

Seven Cents in Clarkston.—Seven-cent cash fares went into effect on the lines of the Lewiston-Clarkston Transit Co., Clarkston, Wash., on Jan. 1 under authority of the Public Utilities Commission of Idaho and the Public Service Commission of Washington. Tickets are sold at the rate of four for 25 cents. The former fare was 5 cents. Coincidentally with the fare increase, the employees of the company received a wage advance of 12.5 per cent.

Rate Increase Suspended.—Increased rates which the New York State Railways, Syracuse, N.Y., proposed as effective on its Mohawk Valley line, with corresponding increases on its Utica-Syracuse line, on Jan. 11 have been ordered suspended for thirty days by the Public Service Commission, Second District, under complaints by the village authorities of Herkimer and Frankfort. Investigation of the new tariff will be made by the commission.

Special Car Service in Seattle.—To relieve railway congestion in the north end business district at Seattle, Wash., Superintendent of Municipal Street Railways, Thomas F. Murphine, has started a system of special cars to accommodate the traffic from some of the larger business houses in that portion of the city during the rush hours. The purpose of the scheme is to permit passengers to obtain seats during the rush hours without having to walk to the south end of the city, where most of the railway lines have a terminus.

City Fights Asheville Increase.—By order of the Corporation Commission of North Carolina the appeal of the city of Asheville from the commission's ruling granting the Asheville Power &

Light Co. a fare increase will be tried before the Superior Court in Madison County on Feb. 23. The commission authorized the company to raise fares from 5 cents to 6 cents several months ago. The city of Asheville opposed the granting of the increase and appealed the case to the courts.

Seeks to Compel Free Rides for Firemen.—The City Council of Seattle, Wash., has instructed Corporation Counsel Walter F. Meier, to institute legal proceedings against the Seattle & Rainier Valley Railway to compel the company to permit city firemen and policemen in uniform to ride on its cars without fare. The railway, with the consent of the State Public Service Commission, recently placed in effect a new tariff on transfers, at the same time announcing that city firemen and patrolmen would not longer be carried free. Fire Chief Stetson entered a protest with the City Council, and Corporation Counsel Meier advised that the city take steps in court to force the company to carry out the terms of its franchise, which provided for certain free rides.

Higher Fare Urged for Dallas.—Higher fares for the Dallas (Tex.) Railway are proposed by D. E. Waggoner, president of the Security National Bank of Dallas, after an exhaustive study of the financial condition of this and other traction properties in this country. Mr. Waggoner's announcement of his stand was the result of recent negotiations in Dallas for the building of the Masten Street extension of the Dallas Railway, in the course of which J. F. Strickland, president of the Dallas Railway, said that the money for this extension must come from Dallas, as it was impossible for the company to borrow additional money for betterments or extensions. The lines in Dallas are operated under service-at-cost. They have accumulated a deficit in the authorized return of \$430,713 in twenty-five months.

North Carolina Commission Sustained.—In an opinion handed down on Dec. 27 the Supreme Court of North Carolina ruled that the State Corporation Commission has authority to grant fare increases in spite of limitations imposed by municipal franchise agreements. The opinion affirmed a decision of Judge Adams in the Mecklenburg County Superior Court, which sustained the commission's action in authorizing the Southern Public Utilities Co. to raise fares in Charlotte. The commission allowed the company to raise its fares from 5 cents to 7 cents more than a year ago. The Supreme Court holds that no contract between municipal governments and public service corporations is to be allowed to interfere with the fixing of a just rate of compensation for the service rendered by such corporations. The commission, which has been invested by the Legislature with recognized power of regulation, may fix such rates in spite of long contracts advantageous to either the public or the corporation.

Personal Mention

Mr. Connette Resigns

Retires from Buffalo Company After Securing Fare Increase and Otherwise Improving the Relations of International Railway

E. G. Connette has tendered his resignation to the board of directors of the International Railway, Buffalo, N. Y., to become effective at their pleasure. In the first place, Mr. Connette's services are required by other interests to which he will devote his time. Moreover, the foreclosure and sale by the bondholders' protective committee of the International Traction Co. has eliminated the stockholders of the traction company of which he was also president and Mr. Connette felt that the committee of bondholders should have the opportunity, without embarrassment, to make any change desired in the management. Mr. Connette retires after the restoration of the resources of the International Ry., depleted by war conditions, and with the property in good condition.

Mr. Connette is president of the United Gas & Electric Corporation and the United Gas & Electric Engineering Corporation and is an officer of other companies. After a short career in railroad work he entered street railway service prior to 1890 and has been engaged in that and allied lines ever since, with a record of achievement in successful operation known to the entire industry.

Like all other electric railways the International was hard hit by the war. The surplus earned in 1916 was \$1,395,633, which was the largest of any year. The war came on, and the price of labor and material advanced so that the increased cost of these two items amounted to approximately \$2,500,000. This left the railway short about \$1,000,000 per annum to meet its bond interest. A supreme effort was made by the management to restore the company's resources and avoid bankruptcy. An appeal was made to the Public Service Commission for an increase of rates in Buffalo, but the commission claimed lack of jurisdiction on account of the decision of the Court of Appeals in the Quinby case, without the consent of the Mayor and Council. On June 14, 1918, the Mayor and Council passed an ordinance granting a 6-cent fare on condition that a demand for increased wages should be met in order to avoid a general strike. After the wages were increased, the court decided that this ordinance increasing the fare was subject to a referendum under the city charter. An election was held on Aug. 20, 1918, when the action of the Mayor and Council was repudiated. The company then appealed to the courts as the last source of relief, and a favorable

decision was handed down by the Court of Appeals on July 15, 1919, giving the Public Service Commission jurisdiction. The rate case was immediately presented to the commission, and on Nov. 20, 1919, an order was made increasing the rate of fare in the city of Buffalo to 7 cents. The rates of fare on the interurban lines have also been substantially increased.

Mr. Connette has been president of the company at Buffalo for six years. During that period there has been expended for new cars, new tracks and power equipment \$7,436,495 and the gross earnings of the company have increased during that period from \$6,393,794 to \$9,453,287. Moreover, the relations of the company with the public and with its employees are satisfactory.

F. D. Aiken has resigned as president of the City & Suburban Railroad, Brunswick, Ga.

F. M. Ames has resigned as superintendent of railways of the Northwestern Ohio Ry. & Power Co., Toledo, Ohio.

John W. Colton has resigned as executive assistant of the Connecticut Co., New Haven, Conn., to become editor of the *Hartford Times*.

A. L. Horton, employed by the Monongahela Valley Traction Company, Fairmont, W. Va., as a motorman, conductor and in other capacities for seven years, has been made assistant superintendent of transportation of the Clarksburg division. Mr. Horton was chosen for the position because of the unusually good record he has made during his service with the company. He succeeds Howard Hurst, who takes another position with the company.

Jacob W. Gerke, superintendent of maintenance of the New York & Queens County Ry., Long Island City, N. Y., has resigned to accept a position in the engineering department of the Texas Co. Mr. Gerke, who joined the New York & Queens County Ry. five years ago, acted also as superintendent of equipment for the Long Island Electric Ry. and the New York & Long Island Traction Co. He has been connected with the electric railway business for more than twenty years. He was formerly master mechanic of the Wilmington & Philadelphia Traction Co. and the Southern Pennsylvania Traction Co.

Col. Albert T. Perkins, general manager for Rolla Wells, receiver for the United Railways, St. Louis, Mo., has been awarded the decoration of Companion of the Order of St. Michael and St. George in recognition of service while attached to the British Army during the war. Colonel Perkins, who served for twenty months in France as an officer of the United States Army,

has already received the Distinguished Service Medal for "exceptionally distinguished and meritorious service." When he commanded the Eighth Engineers in 1917, his regiment served in Flanders with the British Army. Later he acted as director of combat railways for the American Expeditionary Forces.

Edward A. Maher, Jr., vice-president and general manager of the Third Avenue Ry., New York, N. Y., has resigned and will resume the practice of law. It is not probable that a successor will be chosen to Mr. Maher, who will retain his connection with the company through its legal department. He has been connected with the operating department of the company since 1913, when he was appointed assistant general manager. On the retirement of his father, Edward Maher, Sr., as general manager of the system in 1917, he succeeded to that position. He was elected president of the New York Electric Railway Association in June, 1919. A biography and a portrait of Mr. Maher were published in the issue of *ELECTRIC RAILWAY JOURNAL* for June 14, 1919, page 1195.

W. C. Kline, engineer of construction of the Western Maryland Railroad, Baltimore, Md., has resigned to accept the position of chief engineer of the Monongahela Valley Traction Company, Fairmont, W. Va. Mr. Kline assumed his new duties on Dec. 1, succeeding D. H. Blanks, who has been appointed manager of railways. He was graduated from Lehigh University in 1905 with the degree of civil engineer. During the next two years he was employed with the engineering department of the Pennsylvania Railroad in constructing the East River tunnels at New York. In 1908 he was engaged in construction work for the Western Pacific Railroad in Nevada, later serving the Southern Pacific Railroad in the same capacity. In 1910 he joined the Western Maryland Railroad, serving successively as resident engineer, division engineer, and engineer of construction.

Sir Albert Stanley, chairman of the London (England) underground companies, has been created a baron by King George in recognition of his services to the British government during the war. Baron Stanley was made president of the Board of Trade in the Lloyd George cabinet in 1917, but resigned some time ago on account of ill health. Although an Englishman by birth, he was an American by naturalization, and began his electric railway career in the United States. From office boy for the Detroit City R.R. in the horse-car days, he rose to be general superintendent of the Detroit United Ry. In 1903 he accepted the position of assistant general manager of the railway department of the Public Service Corporation of New Jersey. He subsequently became general manager of the corporation, resigning in 1907 to assume the general management of the Underground Electric Rys. Co. of London, England.

Changes in Brooklyn Rapid Transit Personnel

General Manager Menden's Duties Extended—Col. A. R. Piper Promoted—C. L. Crabbs Heads Reorganized Way and Structure Department

As the work of construction in connection with the new lines of the New York (N. Y.) Municipal Railway Corp. is decreasing, while at the same time the maintenance of these lines and those of other associated companies of the Brooklyn Rapid Transit System has increased considerably, a number of changes in the personnel of its engineering organization have been found necessary.

William S. Menden, whose appointment as general manager was announced last October, will have charge of all maintenance and operating details in addition to those of new construction, which previously occupied

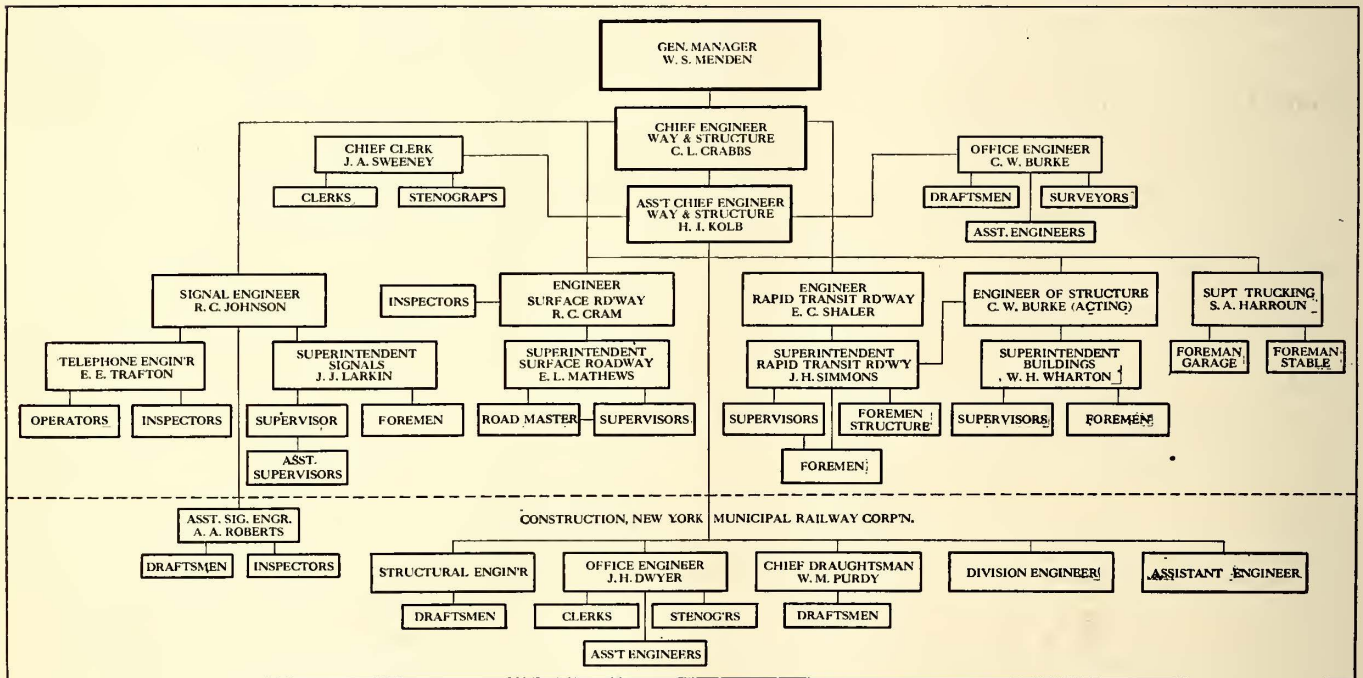
assistant general manager in charge of the employment, welfare and medical bureaus, with such other duties as may be assigned to him from time to time. He will continue to act as president of the South Brooklyn Ry., and superintendent of freight.

O. J. Covell, former secretary to Colonel Timothy S. Williams, is appointed assistant to the general manager.

William S. Menden, who now as general manager assumes direct charge of all operation, maintenance and construction work, came to the Brooklyn Rapid Transit Co. as chief engineer in 1904. In 1907 he was appointed gen-

eral superintendent of employment during the past year. He was born at Fort Wadsworth, Staten Island, in 1865. A graduate of West Point, he retired in 1899 from active service after spending ten years in the regular army. In 1904 he was made general superintendent of the American Ry. Traffic Co., a subsidiary of the Brooklyn Rapid Transit Co. He subsequently became president of the South Brooklyn Ry. and general freight agent of the Brooklyn Rapid Transit System. Called to active service in April, 1917, with the rank of captain, he was later promoted to lieutenant-colonel in the quartermasters' corps and had command of the New York depot of the corps.

C. L. Crabbs has been connected with the Brooklyn Rapid Transit Co. since 1906 and has occupied the positions of principal assistant engineer and engi-



ORGANIZATION CHART, B. R. T. WAY AND STRUCTURE DEPARTMENT

his entire attention. C. L. Crabbs has been appointed chief engineer of way and structure, and in addition to his maintenance duties will now take charge of the construction work of the New York Municipal Ry. Corp.

In the reorganization of the way and structure department, the direct supervision will be divided among five engineers, who will report to Mr. Crabbs. H. J. Kolb has been appointed assistant chief engineer of way and structure, and in addition to his duties in connection with the new construction carried on by the New York Municipal Railway Corp., will be connected with maintenance details.

R. C. Johnson, signal engineer, will handle the operation and maintenance of both the signal system and the telephone system of the company, in addition to the work of new signal installations, of which he formerly had charge.

Colonel A. R. Piper is appointed as-

eral superintendent and chief engineer, and in 1908 assistant general manager and chief engineer for the company. At the time that the dual rapid transit contracts were entered into between the city and the New York Municipal Railway Corp., Mr. Menden was appointed chief engineer of the latter, and assumed direct charge of the enormous amount of work necessary to carry out the contracts. Mr. Menden was appointed assistant general manager for the receiver of the Brooklyn Rapid Transit Co. in June, 1919, and general manager in October last. He is a graduate of Rose Polytechnic Institute at Terre Haute, Ind., where he received his degree in 1891. Before being connected with the Brooklyn Rapid Transit System he was chief engineer of the Metropolitan West Side Ry., Chicago, Ill.

Colonel A. R. Piper, who becomes assistant general manager, has performed

neer of way and structure during that time. He is a graduate of the University of Illinois, from which he received the degree of B.S. in civil engineering in 1890. He was connected with the Metropolitan West Side Elevated Ry., Chicago, for four years, having charge of engineering location and later of the design of track and special construction, and some features of the equipment. From 1896 to 1900 Mr. Crabbs was with the city of Chicago in charge of the construction of water tunnels and sewers. From 1900 to 1906 he had engineering supervision of production in factory work.

H. J. Kolb has been connected with the engineering department of the Brooklyn Rapid Transit System since May, 1904. It was at that time that the Brooklyn Rapid Transit Co. started a program of rehabilitation and reconstruction of its rapid transit and surface lines and also the construction of

additional yards, shops, inspection facilities, carhouses and sub-power stations for the various lines and Mr. Kolb had charge of the engineering work in connection with these improvements in addition to some maintenance of way matters.

In March, 1913, he was appointed engineer of design of the New York Municipal Railway Corp. and had direct charge of all engineering and design in connection with the carrying out of the construction work of the New York Municipal Railway Corp. In June, 1919, he was appointed engineer of construction in charge of engineering design and construction, reporting directly to the assistant general manager.

Mr. Kolb received his technical education in the Massachusetts Institute of Technology and his first engineering work was in connection with electric railway properties in the vicinity of Boston. He was later connected with the maintenance-of-way department of the New York, New Haven & Hartford R.R. at Boston; was resident engineer of construction of the Kansas City, Mexico & Orient Ry., Chihuahua, Mexico, and for two years was with the Pennsylvania Steel Co. in charge of engineering details in connection with the extension of its plant and railroad yard facilities at Steelton, Pa. For two years prior to May, 1904, he was employed as a designing engineer by the New York Central R.R. on the design of the engineering and track arrangement of the Grand Central Terminal improvements.

R. C. Johnson, signal engineer, received his education at the University of Pittsburgh, where he obtained the degree of M.E. in 1899. After graduation and until 1905 he was connected with the Union Switch & Signal Co., first at its plant in Swissvale, Pa., and later in the New York office. From 1905 to 1906 he was signal engineer of the Tidewater Ry., which has since been made into the Virginian Ry. From 1906 to May, 1913, Mr. Johnson was assistant signal engineer of the New York Central electrified zone, which position he left to assume that of signal engineer for the New York Municipal Railway Corp.

C. E. Calder, vice-president of the Dallas (Tex.) Railway, recently discussed the electric railway problem before the Open Forum of Dallas.

C. H. Jones has been appointed general agent for the Pacific Electric Railway, Los Angeles, Cal., and will make his headquarters at San Bernardino.

S. Errickson has been elected secretary and treasurer of the Philadelphia & Western Railway, Upper Darby, Pa., to succeed Gerald Holsman, resigned.

Dwight C. Peck has been appointed claim agent of the Shore Line Electric Railway, Norwich, Conn. Mr. Peck succeeds Robert G. Staplin, resigned.

Morgan T. Donnelly has been appointed Third Deputy Public Service Commissioner of the First District of

New York. Mr. Donnelly was formerly a member of the State Assembly.

Frederick Huff, who has been connected with the Eastern Massachusetts Street Ry. for the past eighteen years, has been appointed superintendent and purchasing agent of the Laconia (N. H.) Street Ry.

John H. O'Brien, former Fire Commissioner and Commissioner of the Water Department of New York City, has been named Chief Transit Inspector of the Public Service Commission for the First District of New York.

Eugene O. Hill has succeeded C. M. Durell as superintendent of the Biddeford & Saco R.R., Biddeford, Me. Mr. Hill has been in the employ of the company for the last nineteen years. He was a conductor prior to his appointment to his present position.

C. M. Durell, superintendent of the Biddeford & Saco R.R., Biddeford, Me., has resigned. Mr. Durell, who entered the company's employ as a conductor in 1892, subsequently became foreman of the repair department. In 1912 he was appointed superintendent.

W. L. Davis, auditor of the Lehigh Valley Transit Company and its affiliated companies with offices at Allentown, Pa., has been appointed to a similar position with the Lehigh Valley Light & Power Co. and its affiliated companies, retaining his connection with the railway system.

James T. Grady has been appointed director of publicity of the Brooklyn (N. Y.) City R.R., recently separated from the rest of the Brooklyn Rapid Transit System. Mr. Grady is director of the department of public information at Columbia University. For about eight years he was connected with the New York *Tribune* occupying various editorial posts, including those of night city editor, telegraph editor, head of the copy desk, war editor and manager of the *Tribune* News Service. For three years Mr. Grady was a member of the teaching staff of the Columbia School of Journalism, and in 1918 resigned from the *Tribune* staff to succeed the late Prof. Franklin Matthews, long a conspicuous figure on the New York *Sun* and later of the New York *Times*. Soon after the establishment of the department of public information at Columbia, Mr. Grady became its head. Mr. Grady has served as marine editor of the New York *Journal of Commerce*, and as telegraph and state editor of the *Hartford Post*. He also has been in the New England service of the Associated Press, and has been connected in an executive, business and reportorial capacity with newspapers in the East and West. Mr. Grady is a native of Winsted, Conn. He was educated at Harvard College and Columbia Law School. He also studied at Trinity College, Hartford. He is a member of Alpha Delta Phi, the American Academy of Political Science, as publicity representative of which he is known to railway men, and of numerous clubs.

Obituary

George Weston Dead

George Weston, president of Weston & Co., consulting engineers for Philadelphia (Pa.) Rapid Transit Co., and a noted electric railway engineer, died in Philadelphia on the morning of Jan. 7, from acute indigestion. Mr. Weston was fifty-five years old. He had been connected with the transportation industry for the past thirty-two years.

Mr. Weston was a native of Kalamazoo, Mich. He received his training in civil engineering by private instruction and entered engineering work in 1880 on the Missouri, Kansas & Texas Ry. Two years later he resigned to take up mercantile pursuit, but in 1885 returned to the engineering field, serving with the construction corps of the Gulf, Colorado & Santa Fe R.R. He left this employment in 1887 to enter the employ of Charles T. Yerkes in Chicago, where he had charge of the construction of a number of cable lines. Later he built 75 miles of line for the Chicago Street Ry.

In 1896 he resigned to become associated with Naugle, Holcomb & Co., constructing engineers. He was in charge of the construction of the Suburban Railroad of Chicago until 1898, when he was made general manager of the company. He next had charge of the Tennessee Central R.R., on the completion of which in 1901 he resigned from the company to engage in consulting engineering practice with his brother, Charles V. Weston.

Upon the creation of the Board of Supervising Engineers at Chicago in 1907, Mr. Weston was made assistant chief engineer. The following year he became a member of the Board of Supervising Engineers to represent the city of Chicago, and later became engineer for the board, retaining that position until January, 1919.

Mr. Weston was a man of many friends, whom he won to him both by his engaging personality and his ability as an engineer. Recently he had been giving his special attention to the question of valuation of electric railway properties, delivering a paper on that subject at the last convention of the American Electric Railway Association. He was a member of the American Society of Civil Engineers, the Engineers Institute of Electrical Engineers, Western Society of Engineers, Chicago Engineers Club, Engineers Club of New York City, and the American Electric Railway Association.

Robert Sealy, for more than forty years secretary and treasurer of the old Broadway R.R., one of the first horse car lines in Brooklyn, N. Y., died on Jan. 5 at his home, in Brooklyn. He retired twenty-five years ago.

Manufactures and the Markets

DISCUSSIONS OF MARKET AND TRADE CONDITIONS FOR THE MANUFACTURER,

SALESMAN AND PURCHASING AGENT

ROLLING STOCK PURCHASES

BUSINESS ANNOUNCEMENTS

Heavy Purchasing of Steel Rails

Tonnage May Exceed 400,000—250,000 Tons Contracted For—Detroit United Ry. Orders 10,000 Tons

Rollings will commence at once on orders totalling 250,000 tons of steel rail practically all of which has been placed in the Chicago district by the steam railroads. Additional rollings by both steam and electric roads may bring the total tonnage about the 400,000 mark.

One electric, the Detroit United, has already placed an order for 10,000 tons of rail and it is expected that many other orders will be placed shortly. Electric railway purchases of steel rails during the past few years have fallen off gradually until for 1919, the estimated tonnage is less than 30,000. With the above order for electric railway rails and others that will be placed during the first or second quarter, last year's mark no doubt will be exceeded.

During November, the railroads sent out inquiries for large quantities of track supplies in order that they should be well taken care of in case of being returned Jan. 1, 1920. The mills at that time would not accept the business unless guaranteed by the Railroad Administration that the purchases would be honored. According to latest reports, the Railroad Administration has made verbal agreements to honor railroad purchases made during the closing weeks of government control.

This business is the first of what is expected to make rollings for 1920 the largest that the industry has known in the past five or six years.

Bituminous Coal Output Increases

Production Rapidly Getting Back to Normal—Operators Expect to Obtain Higher Prices

Reports from different parts of the United States are to the effect that for the past several weeks full service has been resumed on practically all railroads which were forced to curtail operation during the recent coal strike on account of shortage of stocks. For the past three weeks heavy shipments of coal have been literally scattered over the country to fill up the empty bins, reservoirs and yards and to a considerable degree, for replenishing surplus stocks.

According to the report of the United States Geographical Survey the production of bituminous coal was at 70 per cent of normal on Dec. 15. The

situation continued to improve throughout the week ended Dec. 20, the output for the week as a whole amounting to 86.4 per cent of normal. For the week ended Dec. 27, the output was 85.5 per cent of normal, the slight drop being caused by the Christmas holiday. The trend of production during the period of the strike ranged from 29.6 per cent of normal in the first week, Nov. 2, to 48 per cent of normal in the week ended Dec. 13.

PRODUCTION QUICKLY RECOVERS AFTER MINERS GO BACK TO WORK

Total output (including lignite and coal coked) in the week ended Dec. 20 was 10,501,000 net tons. The average during the four weeks immediately preceding the strike, which may be regarded as normal, was 12,089,000 tons.

Compared with the week before, the output showed an increase of 4,631,000 tons, or 80 per cent. The recovery is the more significant when it is real-

ized that in a single week the bituminous industry climbed from the depression of the strike period to a level of production higher than that of any week from mid-January to mid-August of the past year. Indeed, unless later returns cause a downward revision of the estimates, the curve of 1919 production has again crossed that of 1918. The recovery was made possible by a general resumption of work in the field which had been shut down by the strike.

Shortly after the strike was ended, the coal operators protested vigorously against the plan accepted by the mine workers' officials at Indianapolis. The operators claim that higher prices will be necessary to meet expenses under the new conditions and that the miners having violated once the wage contract approved by the government and scheduled to run until April 1, this year, will again be left free to violate any other contract that may be made to take its place.

Switchboard Instrument Sales Steadily Increasing

Sales for 1919 Expected to Surpass Those of 1918—Favorable Market in 1920 Foreseen for Switchboard Instruments—Labor Conditions Show Much Improvement

Although a few reports by representative manufacturers of electrical switchboard instruments show that 1919 sales will be as much as 20 per cent below those of 1918, most manufacturers expect their sales to be well over those of 1918, and in one case even 100 per cent. One factor which would tend to keep down the volume of present sales is the effect which the labor situation might have on business. Increased labor troubles during the month of December and a possibility of their continuance during the early part of 1920 would act as a damper and keep 1919 sales from going much over those of the previous year.

Current sales are reported on the increase and show general improvement over the early part of the year. The current sales of one manufacturer are the largest of that factory. The month of October was reported as the record month in its experience.

Shipments as a whole are growing longer, and although a low range has been set at two weeks, manufacturers are as high as two months. Not only is the excess work in hand a contributing cause to slow shipments, which are far from normal in certain cases, but deliveries of material from the outside are slow and also help delay the finished product. In one case ship-

ments are reasonable, but productive facilities are being rapidly loaded up for the remainder of the present year and part of next year.

INCREASING COSTS MAY FORCE HIGHER PRICES LATER

There have been no recent advances in price, except in a few spots to make complete the adjustments started some time ago. There seems to be a very convenient answer to the price question in that prices may go upward, but no definite basis for any increase has been reported. Of course, increasing costs must inevitably force a higher level of prices, but no time for increasing costs has been set as far as is known at the present writing.

Manufacturers as a whole regard the 1920 outlook as very favorable, although in one case it is not expected that sales will be increased until public utilities again come into the buying market. Unless labor conditions disturb business, a prosperous year is expected in 1920. In this connection other manufacturers are of the opinion that labor unrest is very much improved and that projects now delayed will be rushed to completion without fear of interruption, which should result in a considerable amount of business within the near future.

General Electric Expanding in Supply Field

Company Has Leased Excess Capacity To Care for Demands, Which Are Growing at Rate of \$10,000,000

In order to keep pace with the growth in the electrical industry, without in all cases consuming the time required to construct new plants and train new organizations, the General Electric Co. has in several instances taken advantage of opportunities to acquire under lease existing supply concerns with excess capacity, with options to purchase at some later date. The company's financial statements of the last ten years show that its sales have grown at the rate of \$10,000,000 a year at least. Therefore, if the company is to fulfill the ordinary demands of its customers, factory facilities to provide for such increase must be procured on practically an annual schedule.

ADDITIONAL SPACE NEEDED

In reply to questions asked recently by one of our representatives, one of the officials of the General Electric Co. said: "The General Electric Co., like all progressive electrical manufacturers, will continue to expand. That is natural and inevitable. Besides, balancing out certain large plants and increasing others, it will probably establish unincorporated units in new locations. In certain cases, however, particularly in the supply field, considerable time will be saved, when our customers are making unusual demands on us, if we can purchase outright or negotiate, at least, for some going business of good reputation and with surplus capacity. Such arrangements may also include the right to purchase the plant at the end of five years or longer. In this way will we be in a position to give service to our customers quickly, without waiting to train an organization and establish volume and economical production.

"That is all there is to the recent acquisitions by the company. They do not, in the amounts involved, constitute a very large proportion of our average annual outlays for new facilities."

SEVERAL WORKING PLANTS ACQUIRED

In accordance with these plans the company is now negotiating a lease with the D. & W. Fuse Co. of Providence, R. I., with provisions for purchase at the end of ten years. The last concern the company leased was that of the rigid conduit business of the American Conduit Manufacturing Co. A few months prior to that the business of the Trumbull Electric Manufacturing Co. was taken over under contract. Recently the company announced that it will erect a new branch factory in Decatur, Ind., the second one in the Central West, the other being at Fort Wayne. It has also purchased the Symington Co.'s plant in Rochester, N. Y., which will be utilized for the manufacture of small motors.

Rolling Stock

Salina (Kan.) Street Ry. expects to purchase one new car during 1920.

Wichita Falls (Kan.) Traction Co. proposes during 1920 to purchase five Birney safety cars.

Lewiston-Clarkston Transit Co., Clarkston, Wash., is contemplating the purchase of one or two new cars during the year.

Eastern Wisconsin Electric Co., Grand Rapids, Mich., expects during the year to purchase eight safety cars for use in Fond Du Lac, Wis.

Sandusky, Norwalk & Mansfield Electric Ry. and the Plymouth & Shelby Traction Co., Norwalk, Ohio, are planning to purchase gasoline cars, both for passenger service and for freight service.

Recent Incorporations

Hazard, Ky.—B. P. Wooten and others are planning an electric railway system in Hazard, also lines to Lothair, Glowmar, Hardbulry, Domino and near-by points.

Track and Roadway

Pasadena (Cal.) Municipal Railway.—The City Commission of Pasadena has directed the city engineer to make a survey for the proposed Pasadena Municipal Ry. between Pasadena and Los Angeles.

Seattle (Wash.) Municipal Street Railway.—The line of the Seattle Municipal Street Railway to Alki Point, is to be double-tracked between Luna Park and the Stockade Hotel at 63rd Avenue, S. W. The work will cost about \$35,000, and will include about 150 tons of 60-lb. rails, to be laid on the 8,575 feet of new trackage.

San Diego (Cal.) Electric Railway.—The San Diego Electric railway has been granted permission by the City Council to change its tracks so that changes in service ordered by the State Railway Commission may be made. The Fourth and Third St. lines will be abandoned from Spruce Street to Broadway, these cars being sent across by a new track to be built to the Fifth St. line. The company will abandon the K Street line from Sixteenth St. to Twenty-fifth St.

Kentucky Traction & Terminal Company, Lexington, Ky.—The Kentucky Traction & Terminal Co. plans to extend its lines from Winchester to Irvine, a distance of sixteen miles.

United Railways & Electric Company, Baltimore, Md.—The United Railways & Electric Co. is preparing to reroute its lines with a view to the eventual development of a complete rapid transit system in the city of Baltimore.

United Railways of St. Louis, St. Louis, Mo.—A bill has been introduced in the Board of Alderman of St. Louis,

Mo., permitting the United Rys. to tear up the tracks it has at present on Washington Ave., between Leffingwell and Compton Aves., Compton Ave., between Washington Ave. and Lucas Ave. and Garrison Ave., between Washington and Lucas Aves., and to relay them along Leffingwell Ave. from a connection with the present tracks of the company on Washington Ave. at Jefferson Ave. This bill is in connection with the widening of Washington Ave., between Jefferson and Grand Aves.

Omaha, Lincoln & Beatrice Railway, Lincoln, Neb.—The Omaha, Lincoln & Beatrice Ry. is extending its lines to Havelock, a distance of nearly 3 miles.

Brooklyn (N. Y.) Rapid Transit Company.—Transit Construction Commissioner John H. Delaney of the Public Service Commission, First District, has submitted to Lindley M. Garrison, receiver for the Brooklyn (N. Y.) Rapid Transit Co., a form of agreement for connecting the Fulton St. elevated line in Brooklyn with the subway route at Ashland Place, and for a subway and tube from central Brooklyn to City Hall, Manhattan. The proposed route would remove rapid transit traffic from the Brooklyn Bridge and would make unnecessary the contemplated strengthening of the bridge at a cost of \$9,000,000.

Interborough (N. Y.) Rapid Transit Company.—Borough President Michael F. Loughman of Manhattan has obtained permission from the Board of Estimate of New York City to open negotiations with the Interborough Rapid Transit Company for the removal of the elevated spur through Forty-second Street from the Third Avenue elevated railroad to the Grand Central Station.

Power Houses, Shops and Buildings

Omaha, Lincoln & Beatrice Railway, Lincoln, Neb.—The Omaha, Lincoln & Beatrice Ry. has let a contract for the construction of a concrete carhouse to contain offices, shops and an employees' club room.

Trade Notes

Eastern Texas Electric Co., Beaumont, Tex., will purchase during the year one 42-in. boring mill.

Grand River Valley Ry., Colorado Springs, Col., plans to purchase a welding machine.

Moose Jaw (Ontario) Electric Ry., Ltd., expects to convert all of its cars to safety cars.

Lykens Valley Ry., Williamstown, Pa., expects to purchase some new motors during the year.

United Rys., St. Louis, Mo., expects to construct two additional automatic sub-stations during the year.

Carbon Transit Co., Mauch Chunk, Pa., plans during the year to increase the stack on one Sterling boiler.

Arkansas Valley Ry., Light & Power Co., Pueblo, Col., expects during 1920 to buy a stone crusher and mixer.

Manhattan Bridge Three Cent Line, New York, N. Y., has planned to put up 2 miles of overhead during the year.

Claremont (N. H.) Ry. plans to build during the year a new substation with two new 300-kw. rotary transformers.

Waterville, Fairfield & Oakland Ry., Waterville, Maine, expects to purchase during 1920 one motor-generator set.

St. Albans & Swanton Traction Co., St. Albans, Vt., has recently placed an order for a 300-kw. motor-generator set.

Rome Railway & Light Co., Rome, Ga., expects during the year to purchase \$15,000 worth of transmission line.

Shore Line Electric Ry., Norwich, Conn., through its receiver, R. W. Perkins, expects to have some equipment for sale.

Wisconsin Public Service Co., Green Bay, Wis., is considering the purchase of equipment for one automatic substation.

Monongahela Valley Traction Co., Fairmont, W. Va., expects to equip an old shop at Fairmont with two new lathes.

Brockton & Plymouth Street Ry., Plymouth, Mass., expects during 1920 to purchase one wheel press and one lathe.

Pentaluma & Santa Rosa R.R., Pentaluma, Cal., proposes during the year to purchase one 300-kw. automatic substation.

Springfield (Mo.) Traction Co. expects during the year to purchase a track grinder to be used with an electric welder.

South Side Elevated R.R., Chicago, Ill., expects to purchase one 36-in. heavy-duty engine lathe and one 24-in. crank shaper.

Mesaba Ry., Virginia, Minn., expects to purchase, during 1920, one electric welding outfit, one drill press, and one engine lathe.

Port Arthur (Ontario) Civic Ry., expects during 1920 to purchase an overhead equipment for 4½ miles of single-track extension.

Tiffin, Fostoria & Eastern Electric Ry., Tiffin, Ohio, are now considering the building of a new substation at Bascom, Ohio.

Evansville Suburban & Newburg Ry., Evansville, Ind., is contemplating the purchase of some standard gondola cars during 1920.

Fox & Illinois Union Ry., Yorkville, Ill., plans to purchase during 1920 one new substation and one electric shovel to work in ballast.

Interborough Rapid Transit Co., New York, N. Y., is contemplating the purchase and installation of the following: Cable and miscellaneous material, \$200,000; substation material (not equipment), \$45,000; power station material, \$296,000. The total amount to be expended is \$541,000.

Guy E. Tripp, chairman of the board of directors, Westinghouse Electric & Manufacturing Co., has been elected a director of the American International Corporation, to succeed J. Ogden Armour.

Hull Electric Co., Montreal, Que., Canada, has ordered 800/1200-kva., three-phase, 60-cycle, 11,000-volt-2200-volt transformers, together with switching apparatus and arresters for delivery in 1920.

E. Morton, Chicago, Ill., has organized a firm which will handle electric railway equipment and repair work, including armature windings, field windings, and miscellaneous repairs. Mr. Morton, who was formerly connected with the General Electric Co., will be located at 4744 West Chicago Ave.

Northern Texas Traction Co. and the Tarrant County Traction Co., Fort Worth, Tex., expects to purchase during the year one automatic railway substation, three sets of double track block signals, one sanding machine, one air compressor, one shear and punch, one combination bolt and threading machine, and one armature banding machine.

The Lapp Insulator Company, Inc., Le Roy, N. Y., announces the appointment of S. H. Lanyon, 507 New Call Building, San Francisco, as its representative for the Pacific Coast; the Capital Electric Company, Salt Lake City, representative for the Salt Lake district, and the Butte Electric Supply Company, Butte, Mont., for the State of Montana.

Belden Manufacturing Co., Chicago, Ill., announces that J. P. Davis, purchasing agent of the company, has been elected president of the Purchasing Agents Association of Chicago. Mr. Davis was formerly assistant purchasing agent for the Standard Underground Cable Co., Pittsburgh, Pa., coming with the Belden Co. as purchasing agent in 1916.

Western Electric Company, New York, N. Y., has appointed W. F. Abely assistant manager of its Boston office. Mr. Abely is widely known in New England jobbing circles, having been in charge of sales at the company's offices in South Boston for a number of years and an active worker for the upbuilding of the electrical industry through its various commercial organizations.

R. D. Nuttall Co., Pittsburgh, Pa., effective Jan. 1, 1920, has changed its merchandising policy and under a new arrangement, the Westinghouse Electric & Manufacturing Co.'s salesmen throughout the United States will handle the railway and mine products of the company. All Nuttall industrial lines and other products, however, will be taken care of through the main office of the company at Pittsburgh.

Western Electric Co., New York, N. Y., announce the appointment of E. R. Morgan who will handle the steamship and the railroad business for New England territory from Boston, and William Lancaster who will look after

Virginia and North Carolina territory from the Richmond house. R. D. Eves has been assigned to Kentucky, Tennessee, southern Indiana and southern Ohio and the western part of West Virginia, which will be handled from the Cincinnati office.

Roller-Smith Co., New York, N. Y., has appointed G. Lindstrom, works manager of its plant at Bethlehem, Pa. Mr. Lindstrom in 1906 received his M.E. degree from the Royal Institute of Technology, Stockholm, Sweden, and the E.E. degree in 1907. He has been chief engineer, successively, of the Ohio Sterling Co., Dayton, Ohio, and of the Electric Products Co., Cleveland, Ohio, and also production manager of the S.K.F. Ball Bearing Co., Hartford, Conn., and of the S.K.F. Ball Bearing Co., Gothenburg, Sweden.

Westinghouse Electric & Manufacturing Co., N. Y., announces that I. F. Baker, who for the past two years has been in the New York office of the Westinghouse Electric International Co., is now en route to Tokio, Japan, where he will act as special representative of the International Co. Mr. Baker entered the service of the Westinghouse Co. in 1908 and after finishing the graduate students course, remained in the resale and contract section of the sales department until 1913, when he was transferred to the foreign department.

American Steam Conveyor Corporation, Chicago, Ill., announces that the Atlas Machinery & Supply Co., a new sales organization located at 1416 Syndicate Trust Building, St. Louis, Mo., are now handling sales of the company's ash conveyor in the St. Louis territory. William H. Patton, recently returned after two years army service, will be in charge. Associated with Mr. Patton, are his brother, W. R. Patton, who has sold power plant equipment in the Central West for the past twenty years, and N. B. Stewart, who also has been in the power plant machinery business in St. Louis for twenty-five years. The acquaintanceship and experience of these men in the power plant field will assist the organization to give real service to the trade.

Chicago Pneumatic Tool Co., Chicago, Ill., reports good orders from its foreign agencies both in England and Germany. Orders booked during the month of October were in excess of any previous months since the armistice. During the war the German subsidiary was run under compulsory administration by the German government. This has now been abolished and the management is being transferred back to the Chicago Pneumatic Tool Co. through the Courts of Commerce, according to recent cable reports from the company's representative, now returning from Berlin. Reports show that the German company was well managed during the war and is now operating on a satisfactory basis. Arrangements have been made to materially increase the production capacity of the company.