

# Electric Railway Journal

Consolidation of STREET RAILWAY JOURNAL and ELECTRIC RAILWAY REVIEW

Volume 54

New York, Saturday, September 13, 1919

Number 11

## The Eight-Hour Day on the Electric Railway

WE HAVE referred several times in these columns to the growing demand for an eight-hour day for electric railway trainmen, and now that this principle has been conceded with certain restrictions in the new Chicago agreements, it will be interesting to see how the arrangement works out. The contracts agreed upon by the surface and elevated companies in Chicago, following the recent strike, were alike except in a few minor particulars. The former provides that the work day for all employees "shall be eight hours with time-and-a-half for all time worked over eight hours—not less than 60 per cent of the runs to be 'straight' time—the balance to be completed within fourteen consecutive hours."

New time tables on an eight-hour basis are to be prepared as rapidly as possible, all to be effective before Jan. 1, 1920. While these changes are being made, time-and-a-half is to be paid for all time over the time called for by the respective runs on present schedules, and any runs extending over eleven hours are to receive time-and-a-half for such excess.

Officials in the Amalgamated Association refer to this settlement as "the first eight-hour day, with time-and-a-half for overtime, ever received by any body of car men." The Boston Elevated eight-hour day, as we understand it, calls for no "straight" runs and the men get a bonus only when the "spread" exceeds eleven hours. It has frequently been insisted that the straight eight-hour day is impracticable in street railway schedules, and after a hard battle in Chicago with members of the Public Utilities Commission digging for facts, this was found to be true. The result was a compromise calling for only 60 per cent straight runs, the remaining 40 per cent being reserved to cover peak load demands.

Union officials themselves must have realized at last that they have been asking the impossible. This is indicated in the compromise Chicago agreement. They have evidently discovered also that their men will not be satisfied with an eight-hour limit to their working day, and that the choice runs are those which pay ten or more hours per day. A recent issue of the *Union Leader*, official organ of the Association in Chicago, has this to say on the subject:

Perhaps we may yet be forced to admit the claim of the companies that many of our men did not want the eight-hour day. We are reluctant to believe this. \* \* \* If we have men who want the long workday, they are surely blind to their own interests and the interests of their fellows \* \* \*. With the shorter workday established it will be much easier in the future to advance wages and secure other improved conditions. The test will come when the new eight-hour tables are put in force. With the long workday now prevailing, the total daily wage will be higher than with the eight-hour time table. Then will come the test as to whether our men wanted the eight-hour day; as

to whether we are sincere in our adherence to trade union principles.

Apropos of the new Chicago wage scale, it is interesting to note a recent advertisement of the Carpenters District Council in Chicago. The striking trainmen had been pointing to the higher hourly wages of other union workers. "The carpenters are getting 92½ cents," they said. These same carpenters who were striking for \$1 an hour, now complain that "the carpenter can get work only part of the year. His average annual wages do not exceed \$1,200."

## Industrial Conference Should Include the Electric Railway Industry

PRESIDENT WILSON has called a conference for Oct. 6 for the purpose of obtaining the "combined judgment of representative employers, representative employees and representatives of the general public" on what may constitute "a common ground for agreement and action with regard to the future conduct of industry." To this end he has invited the United States Chamber of Commerce to select five persons to attend the conference, the National Industrial Conference Board to select five, the American Federation of Labor fifteen, the Investment Bankers' Association of America two, and the National Grange and National Farmers' Union three, while he will select fifteen representatives of the public. This conference will no doubt afford a splendid opportunity for threshing out all of the differences and presenting all the interests of the four parties concerned—labor, capital, public and government.

But this conference cannot be complete in its scope unless one of the largest industries of the country, both in number of employees and capital invested, and made up of a large number of individual plants locally governed and operated, is included. We refer to the electric railway industry. Differing from the steam roads, which are subject to a single administrator, the electric railways are like the industrials in their segregation and diversified control. They are also inextricably interwoven with the life and prosperity of the individual industrial plants and are vital to the social and industrial welfare of the nation as a whole.

So it would seem that if the conference is really "to canvass every relevant feature of the present industrial situation," this great industry should have a voice. This might be had as a direct nomination from the American Electric Railway Association, or through the Public Utilities Committee of the United States Chamber of Commerce, which has already been invited to nominate five persons. This leads us to suggest that a railway man, such as Philip H. Gadsden, for instance, who is a director of the Chamber of Commerce and who is well qualified through his prominent experience on the Electric Railway War Board and the Federal



Electric Railways Commission to serve in this important work, would be a happy choice. In any event, we hope that the labor problem on electric railways will be thoroughly considered at the conference.

---

### Let's Cut Out "Preaching" In the Safety Movement

THE program for the Eighth National Safety Congress, just issued, shows that the electric railways are to be well represented at that gathering. The program contains six papers by electric railway men of high standing, including the presidents of the American Electric Railway Engineering and Claims Associations. The topics of their papers suggest that the authors propose to handle the general subject in a tangible, practical way. This is highly desirable for there has been quite a little "hot air" in evidence in safety discussions, and a somewhat marked tendency to "preach." A recent Safety Council electric railway poster recognizes this fact by the caution, properly illustrated, "Teach by Example—Don't Preach Too Much." Accidents are in themselves tangible enough. The wordiness referred to comes from the difficulty of impressing upon the men who contribute to the causes of accidents the seriousness of the situation. Nearly everybody is willing to take a chance on his own safety and many are willing to include the safety of others also. But they don't like to be cautioned about it; it seems patronizing to them.

The electric railway section meetings are to be held on Thursday and Friday, Oct. 2 and 3. There are some interesting matters of general interest to be presented on Saturday morning, and the annual dinner is scheduled for Friday evening. It is thus possible for electric railway men who can route their Atlantic City trip so as to include Cleveland to take in at least part of the congress on their pierward way. It certainly would greatly encourage the men who are striving to keep up the interest in accident reduction if a reasonable number of the men fairly high up in the business would attend. Our observation inclines us to the belief that the executives in industrial plants take the safety movement more seriously than do those in the utilities, as evidenced at least by attendance at the Safety Congress.

---

### Why Politicians Try to Befog the Issue

THE mayors of the largest two cities still seem to think it a popular move to oppose a living fare to the electric railways. In New York this opposition has gone so far, in the case of the New York & North Shore Traction Company, as to threaten to force its abandonment of much needed transportation facilities, where the persons dependent on these facilities have manifested their approval of a higher fare by voluntarily paying it in large numbers for some months.

If the converse was the case in either New York or Chicago, it is easy to imagine the great outcry which would be raised over the necessity for lower fares. If a railway or any other public utility, on the strength of a franchise granted sixty years ago under conditions entirely different from those at present, was making enormous profits, it would soon be required to lessen its charges. There are cases without number where rates for utility service have been cut by the state legislature

and these reductions upheld by the courts, and it is just that a public utility should be restricted to rates which will return only a reasonable return on the value of its property. A public utility is a public servant which conducts a monopoly for the state because private ownership is considered more desirable than that of the public, but in other respects it is practically a branch of the state. If the state thus assumes to reduce rates which are unreasonably high it is equally bound to increase the rates of a public utility which are unreasonably low.

That fair treatment of the local railway system is not only a duty but good business is recognized by a growing number of city officials. One of the clearest cut statements along this line which we have seen recently is contained in an opinion recently expressed on the advisability of increasing trolley rates in Auburn, N. Y., by C. S. Drummond, city attorney. "By law, in common sense and in good morals," he says, "the company is entitled to a return for the service it renders the public, that is, the company is entitled, so long as it serves the public, to receive enough money to pay its operating expenses, the taxes assessed by the public upon its property, the interest required to be paid upon the money invested in property, and besides a reasonable return on its system for the service it renders."

No pronouncement on the situation could be clearer and sounder than this.

---

### Status of the Manufacturers In the American Association

AT THE coming Atlantic City convention it is hoped and expected that provision will be made in the executive committee of the American Association for official representation of the manufacturers and that some plan for an affiliated association of manufacturers will be approved by the manufacturer members of the American Association. It is now nearly three years since Charles L. Henry, then president, in his Atlantic City convention address, suggested the provision of means to permit more active participation of manufacturer members in the management of the association. It will be remembered that the 1916 convention was the first at which the manufacturing companies were represented as company members on the same footing as railway members. At the following meeting of the executive committee, held on Dec. 20, 1916, a committee of manufacturers was appointed to draw up a proposed plan of union, and, at the 1917 midyear meeting such a plan was presented, but after discussion was returned to the committee for further consideration.

During the war, when conventions were abandoned, naturally but little progress was made. Nevertheless, the executive committee decided, in any event, to recommend the addition to the executive committee of two manufacturer members and suggested that after the manufacturers had formed an affiliated association there would be a third manufacturer representative on the executive committee in the person of the president of that association. Such constitutional steps as are necessary will be taken before the convention, so that the first of these changes may be voted upon at the October convention and a proposed form of constitution establishing the manufacturers as an affiliated association will be placed before them for their approval.

There has been a question in the minds of many man-



ufacturers as to whether the proper form of their body should be an affiliated association or an independent organization. For this reason, perhaps, it is just as well that the determination of this question has not proceeded too rapidly. We believe that a majority of the manufacturer members of the association accept now the formation of a suitable affiliated association as the best solution of the problem. It may be that this opinion is unanimous; we hope that it is. If there are still manufacturer or railway members who think otherwise, we call their attention to the fact that while some independence is undoubtedly surrendered under the proposed plan, it provides for a 50 per cent increase in representation on the executive committee and a much greater unity of organization. Under any form of united organization, the manufacturers will enjoy a very considerable independence due to the nature of their business. Furthermore, they now form more than a third of the membership of the American Association and pay a fifth of the dues. Being such a large element, both numerically and financially, in the parent organization, it would seem that they should have a section of it for their own in order that they may contribute most effectually to the development of the industry.

#### If We Sat at a Telephone Switchboard

**E**LECTRIC railway men in discussing traffic surveys no longer confine themselves to the actual passengers on the cars but to the possible passengers on the sidewalks. One equally important source of prospective traffic may be suggested for such traffic surveys, namely, an analysis of telephone uses.

If we could only sit in at a telephone switchboard to hear the nature of the messages, what surprises would be in store for us! Mrs. Jones is telephoning her favorite department store, 2 miles away, that she would like to have the store send up two or three size-38 house gowns for approval. Mrs. Smith is having a long chat with Mrs. Robinson who lives but a mile away. Mr. Williams, that likable rent collector, is asking some tenants to mail their checks, it having occurred to him that today he will lack time to walk from block to block. In short, we would soon see that the telephone instead of the electric railway was being used for countless occasions.

Undoubtedly many interviews can be conducted more quickly and easily by telephone than personally, but we believe that the splendid salesmanship that the telephone companies have exhibited for years has had a great deal to do with the extended use of that instrument. There is just as good opportunity for the electric railway companies to display salesmanship. Traffic can be driven away by infrequent service and too high charges, just as it can be cultivated by the opposite policy. In the cases cited, Mrs. Jones possibly would have preferred to select those gowns herself at the store and the merchant surely would have liked her to do so, had it not been because of the long headway on her line or the recent increase in car fare. Mrs. Robinson would certainly have had still more pleasure in seeing rather than merely hearing that dear Mrs. Smith. Had Mr. Williams called for the rent in person, he might have run across examples of the janitor's neglect that would not otherwise come to his attention until too serious to smooth over!

The obvious moral is that the electric railway must be just as keen to advertise the advantages of personal presence as the telephone company is to advertise the advantages of faster though less satisfactory communication. The transportation man must not take the triumphs of the other fellow for granted, but be ready to do a little salesmanship of his own. With the self-propelled vehicle at one end and the telephone at the other, it is high time that we felt the inspiration that comes from competition.

#### Some Things That Organized Labor Can Do.

**S**ANE and orderly unionism has won out against the aggressions of radicalism on at least two occasions recently. Once was during the Chicago street car strike when a majority of the trainmen sustained International President Mahon in his criticism of a disturbing element of men who had previously refused to take a referendum vote on a settlement offer. Only a few weeks later Mr. Mahon found it necessary to threaten the revocation of the Pittsburgh employees' charter because they went on strike in spite of a solemn agreement with the receivers of that property to abide by the award of the War Labor Board. At a subsequent meeting of the union the men listened to the pleas of their official counsellors, who insisted that they maintain the inviolability of their contract. For such leadership the Amalgamated Association must be commended. A strong object lesson might have been given by making outlaws of the radicals on either of these occasions, but it is at least to the credit of Mr. Mahon and his associates that they took the action which they did in these situations.

In thus recognizing true unionism, it is none the less a duty to call attention to another chapter in the Amalgamated Association's history which forms a less enviable record. By this we refer to the story of tactics and methods of organized labor as related a few weeks ago in Kansas City at a hearing before the Chamber of Commerce committee. Various witnesses at that session told of former union employees who had approached them while they were working on the cars and suggested means for beating the company. Far be it from us to intimate that union leaders had encouraged such conduct. If these stories are true, however, prompt steps should be taken to weed out from union membership all who could be identified as countenancing such tactics.

If labor is to have any hope of coming into partnership with capital in the conduct of business, it must be prepared to join in the agreement with clean hands. The days of unsavory methods are past for labor as well as for capital. The time is coming, we hope, when correct moral principles will be the prime requisite for entry into any union or any business. American labor has already proved itself more sane in listening to reason rather than to bolshevistic arguments, and we believe that with new responsibilities added to organized labor in its growing share in industrial activity the days of the unprincipled workman are numbered. The Amalgamated Association membership, assembled in biennial convention in Chicago this week, might well ponder the benefits of following capable leadership rather than listening to the siren song of those who would lead the workmen into the doubtful benefits of a new Paradise.



# The Nickel in 1913 and 1919

The Shrinkage of the 5-Cent Coin During the Past Six Years Is Clearly Demonstrated by the Application of Unit Figures of 1913 Costs to 1919 Expenses

BY W. H. BURKE  
Stone and Webster

**D**URING the past few years we have witnessed what comes dangerously near being the complete breakdown and disintegration of an industry representing an investment of some \$6,000,000,000 and furnishing service each year to a total of about 15,000,000,000 passengers, including between 11,000,000,000 and 12,000,000,000 revenue passengers. We have seen the entire street railway industry of the country forced to the verge of bankruptcy, with companies both large and small owning some 6000 miles, or about 15 per cent of the total electric railway track mileage of the country already in the hands of receivers, over 500 miles of track dismantled and sold as junk during the past four or five years and in addition service on about 250 miles of track discontinued.

Faced with the strong possibility of losing its street railway service entirely, the general public has in the past year or so discarded some of its apathy toward the situation and has at last begun to realize that like any other commercial undertaking the street railway company must, if it is to continue in business, be allowed to take in as much money as it is obliged to pay out. The car rider is coming to understand that serious results are bound to follow his refusal to pay as much for his ride as it costs the company to furnish it, and that there is no pot of gold at the end of the rainbow which the company can draw on to offset the increase in present-day, as compared with pre-war costs of operation. The company manufactures and sells but one thing—transportation—and its selling price, in the long run, must be equal at least to the full manufacturing cost including a fair return on the money invested in its plant. The present predicament of the street railway industry is due to the fact that the cost of producing transportation service has increased enormously during recent years while the selling price, instead of being subject to the economic laws which govern the prices of other commodities, has arbitrarily been kept down to substantially the pre-war figure.

## CAR RIDE AND LOAF OF BREAD ONCE COST THE SAME

The 1913 nickel was in many, though not in all, cases equal to the cost of the average city street-car ride. It was also equal to the cost of a loaf of bread including the baker's profit, but times have changed. In addition to handling the world's normal business as it did six years ago, the world's nickel has been called upon to supply battleships, guns, ammunition and other war equipment to the extent of some \$150,000,000,000 in addition to meeting indirect costs of the war, and the strain was too great. To meet the situation \$250,000,000,000 in paper currency has been issued, with the result that the nickel of pre-war days has shrunk in purchasing power to a shadow of its former self.

To offset this depreciation in purchasing power the baker, for instance, added a few cents to the price of his loaf of bread. In other words, he gave his nickel the help required to maintain it at the equivalent of

its 1913 value. The street railway nickel has not fared as well but has been obliged to continue as it had done five years before under conditions which were entirely different. It has done as much work for the company as it was possible for it to do under the changed conditions of the past few years and the rest has been left undone and labelled "deferred maintenance" or more generally "foregone dividends".

During the past year or so some, though by no means enough, relief has been granted in the way of higher fares. The regulatory bodies and, to a certain extent, the general public have apparently begun to realize that the nickel will not stay in the street railway business if it is to be permanently overworked and discriminated against, but will join the other members of the family in lines of business where the requirements are less exacting.

This matter of comparative value of the nickel has been mentioned at some length for the reason that the car rider, at least, does not usually appreciate the fact that the nickel he now drops in the fare box is not, from the railway company's standpoint, the same coin at all as the one with which he paid his fare five or six years ago, although outwardly it looks the same. It won't buy as many pounds of rail nor pay the wages of the motorman for as many minutes as the nickel did in 1913, and this, after all, is the important point which concerns the street railway company.

## ALL FACTORS MUST BE DULY WEIGHTED IN MAKING COMPARISONS

It is evident that the real measure of permanent relief which the railway needs in the way of higher fares can only be accurately determined by comparing the value of the 1919 nickel with the 1913 nickel working under identical conditions. It is not enough to say that last month's total operating expenses show an increase of 25 to 50 or 75 per cent over what they were for the corresponding month six years ago because it may well happen that in the 1913 month, when conditions were tolerably satisfactory, the railway company retied a couple of miles of track, for example, whereas with conditions as they are with most companies at the present time, it is reasonably safe to assume that no extensive work of this kind is being done, provided the cars will stay on the rails.

Merely to compare total operating expenses to prove our case is, in a somewhat exaggerated sense, like attempting to prove that the cost of living has increased because we paid \$2 a bushel for potatoes last week where in 1913 we paid only 10 cents a quart for beans—our comparisons are differently based.

Neither does it throw much light on the subject of increased operating costs to compare present and pre-war unit prices of materials and equipment used in street railway operation. In an effort to prove their case, a great many such comparisons have been pub-



lished by the railway companies during the past two years, but in most instances 90 per cent of the items included in these statements covered such comparatively insignificant materials as wood screws, trolley fingers, carriage bolts, etc., and while their unit costs might show increases of two or three hundred per cent, their total money cost would not represent 5 per cent of the companies's total operating expenses.

In the data given in this article an effort has been made to arrive at a true weighted average amount and percentage by which operating costs for a typical month in 1919 exceeded those for the corresponding month in 1913, the information covering the operation of three representative street railway properties, which for convenience are referred to as A, B and C. Stated in another way, the purchasing power, and therefore the value, of the nickel which these companies are collecting in 1919 has been compared with the value of the nickel collected in 1913.

HOW THE COMPARISONS WERE MADE

Company A operates a city railway system serving an estimated population of 105,000. Company B is also a straight urban railway proposition serving an estimated population of 150,000. Company C operates a combined city and interurban system, the population served being estimated at 280,000. The three companies are operating their city systems on a five-cent fare with a 2½-cent child's fare, and with the usual liberal transfer privileges. Although Company C is required by its franchise terms to sell twenty-two tickets for a dollar, only 7 per cent of its city revenue is represented by sales of these tickets, so that to all practical purposes its rate of fare is 5 cents.

Briefly the procedure followed in comparing present and pre-war operating costs for the three companies was to determine what their 1919 operation for a normal month would have cost at the unit labor and material prices which prevailed during the corresponding month in 1913.

All vouchers, stock slips and pay rolls covering March, 1919, operation were carefully analyzed and the quantities of material and supplies and the hours of labor chargeable against each operating account under the Standard Accounting Classification were thus determined. To the 1919 quantities the material prices and wage rates prevailing in March, 1913, as shown from the companies' records, were applied. In this way figures were arrived at which show what the cost would have been in March, 1913, for identically the same work as was done in March, 1919. The greatest care was taken to assure accurate results. As an example of the detail in which the matter was covered, it may be stated that adjustments were made in such comparatively unimportant items as the increases since 1913 in freight and express rates on material. Actual data were available in substantially all cases and such minor assumptions as were necessary had to do with insignificant items which could have no appreciable effect on the total figures which are summarized in Table I:

TABLE I—COMPARISON OF OPERATING EXPENSES FOR THREE COMPANIES IN 1913 AND 1919

	Actual Operating Expenses—One Month, 1919	Cost of Same Operation at 1913 Unit Prices	Weighted Av. % Increase in 1919 Over 1913 Costs
Company A.....	\$44,473	\$26,879	65.4
Company B.....	107,277	72,309	48.4
Company C.....	138,226	95,405	44.9

It should be explained in connection with the above figures that Company A, like most street railway companies, has been subject during the past few years to a very large increase in the cost of coal. Companies B and C, both of which burn oil as fuel, have been unusually fortunate in this respect, due to the fact that both have purchased oil on long-term contracts at very favorable prices, while in the case of Company A it was impracticable to make a coal contract covering more than a one-year period. Company B is, in fact, paying slightly less per barrel for fuel oil at present than in 1913. This explains the greater percentage increase in the weighted average expense for Company A. If the increase in fuel cost be disregarded for this company, its weighted average increase becomes 48 per cent, or substantially the same as for Companies B and C. Incidentally, the condition referred to above shows the justice of different rates of fare in cities where outwardly at least conditions appear to be very similar.

A more detailed comparison of March, 1919, with March, 1913, weighted operating costs for each of the three companies is shown in Table II:

TABLE II—COMPARISON OF 1919 PRIMARY EXPENSE ACCOUNTS ON 1913 COST BASIS

	— Company A —		— Company B —		— Company C —	
Maintenance of way and structures.....	\$2,541	\$1,727	\$8,935	\$5,092	\$17,148	\$10,525
Maintenance of equipment.....	3,938	2,436	9,168	5,796	18,716	10,190
Total power.....	6,639	3,435	12,191	12,687	11,684	10,622
Wages of trainmen.....	16,763	8,741	42,662	23,677	44,348	25,002
Other car operation, including superintendent of transmission.....	4,082	2,275	10,538	7,206	13,360	8,400
General and miscellaneous, including traffic.....	10,510	8,265	23,783	17,851	32,970	30,666
Total.....	\$44,473	\$26,879	\$107,277	\$72,309	\$138,226	\$95,405

The foregoing figures show that it cost from 45 to 65 per cent more in 1919 than it did in 1913 to do identically the same work. There is one phase of the matter which is not taken into account in the figures shown above, that being the relative efficiency of the labor the companies are now employing and the quality of the materials they are now receiving compared with what they were getting in 1913 at much lower prices. While it is practically impossible to develop accurate data on these two points, there is no question but that such a comparison would have the effect of further increasing 1919 costs by a very substantial amount.

In 1913 all of these companies were furnishing good service, maintaining their physical properties in good condition, providing the required amounts for depreciation, paying a reasonable return to the owners of the property and laying by a little balance out of the nickel with which to stabilize their credit and attract new capital as needed. Merely to take care of the increases in current operating expenses under present conditions and allowing for no falling off in business due to the higher fares necessary to accomplish this, it appears that in the case of Company A the portion of the nickel which goes to pay current expenses would have to be increased 65 per cent and an increase of approximately 45 per cent in the case of Companies B and C. This would represent an increase in fare so far as these particular companies are concerned, of about 2 cents in the case of Company A and about 1½ cents for Companies B and C, making their fares 7 and 6½ cents respectively.

As stated above, these advances in fare would offset



only the increase in current operating expenses; another quarter of a cent would be necessary to take care of the enormous increases in taxes to which the companies are now subject and a still further addition to the fare unit would be necessary to pay the investor the higher return which he is now demanding on his money and which he is able to get—and with safety of his principal—in other lines of business. Furthermore, if present high prices continue, depreciation requirements are bound to be greater than under former conditions, since eventually the present physical properties must be largely rebuilt and replaced at costs which exceed the cost of the existing construction by from 50 to 100 per cent or even more.

The grocer, for example, has added his increased costs to the price of his goods, but for the most part the street railway company has not been allowed to do so because of franchise restrictions and requirements and the arbitrary manner in which its business is regulated. Looked at in another way, the above figures show that the nickel no longer represents its 1913 equivalent in purchasing power and if the 1913 nickel be taken at 100 per cent value, the companies in 1919 are not getting a 5-cent fare, but only roughly from 3 to 3½ cents, and this is after allowing merely for higher current operating costs. Conversely, if Company A had been collecting a 3-cent fare and Companies B and C a 3½-cent fare in 1913, they would have been receiving approximately as much for their service based on then prevailing conditions as to wages and material costs as they are getting at the present time and under existing conditions.

HOW THE NET WOULD HAVE INCREASED TO 2.21 CENTS

In this connection, an analysis has been made to determine how Company B, for example, spent the nickel it collected in March, 1919, and how it would have been spent in 1919 if the same work which was done this year had been done at prices prevailing in March, 1913. This information is summarized in the tabulation shown in Table III:

TABLE III—COMPANY B'S DIVISION OF THE NICKEL IN 1919 AND WHAT IT WOULD HAVE BEEN ON 1913 BASIS

	Division of 5-Cent Fare	
	Actual March, 1919	March, 1919, Based on March, 1913, Prices
Labor.....	2.17 cents	1.12 cents
Material and sundries.....	1.46 cents	1.02 cents
Total operating expenses.....	3.63 cents	2.13 cents
Taxes.....	.37 cent	.16 cent
Interest charges.....	.40 cent	.50 cent
Balance for reserves, depreciation and dividends.....	.60 cent	2.21 cents
	5.00 cents	5.00 cents

NOTE.—Sundries include such items as injuries and damages, rent, insurance, light and water, and others which cannot be classified directly as either labor or material.

It will be seen from the above that average labor costs have practically doubled until nearly 45 per cent of the nickel is now required to meet the pay roll, that prices of material and sundry expenses have advanced some 45 per cent, that taxes have considerably more than doubled. Interest charges, on the other hand, have decreased slightly, due to a rearrangement of the company's outstanding obligations, while the portion of the nickel left to take care of reserves and depreciation and pay the investor for the use of the money which he invested in good faith in the property is actually 73 per cent less than it would have been if 1913 conditions were applied to March, 1919, operation.

The facts are that in March, 1919, this particular company earned, after allowing for depreciation, at the rate of 2.2 per cent per year on the actual cash investment in the property, although this figure would be reduced to less than 2 per cent had it been possible to maintain the property at pre-war standards. If the showing were based on 1913 conditions the company would have earned, after proper allowance for upkeep, approximately 10 per cent on its actual cash investment. Incidentally, this is equivalent to only 7 per cent on the reproduction cost to-day, as shown by a recent appraisal of the property. It cannot, therefore, be contended that even under 1913 conditions the return would have been exorbitant. It might be stated further that this company was recently obliged to pay 9 per cent for money in order to finance its floating debt for a period of 3 years.

THE COMPARISON CARRIED TO GROSS EARNINGS

In the case of Company B, the comparison between the actual March, 1919, showing and the adjusted showing based on March, 1913, prices was carried a step further, gross earnings, as well as operating expenses, being adjusted in order to determine the company's balance after paying its current operating expenses, for a typical month this year under conditions which prevailed in 1913. This particular company has been the victim of cut-throat jitney competition, in varying degrees, since the latter part of 1914, as many as 800 jitneys having been licensed at one time with about 135 still in operation. In order to allow for the effect of jitney operation on the company's earnings, the 1919 figures were adjusted by assuming that normally the earnings per car mile in March this year should have been at least as great as in March, 1913, when the figure was slightly over 30 cents. On this basis the figures compare as shown in Table IV.

TABLE IV—COMPARISON OF EARNINGS AND EXPENSES FOR COMPANY B ON 1919 AND 1913 BASES

	Actual March, 1919	Same Operation Based on 1913 Conditions	Decrease
Gross earnings.....	\$143,888	\$169,981	\$26,093
Operating expenses.....	107,277	72,309	*34,968
Balance for taxes, interest, depreciation, dividends and reserves.....	\$36,611	\$97,672	\$61,061
* Increase.			

It should be made clear that the figures shown above in the second column do not represent the actual March, 1913, showing of this company, but merely what the showing would have been if March, 1913, prices and conditions had applied to this year's March operation. The facts are that on account of the company's financial condition a great deal less work was done on the property in March this year than was really needed to maintain and operate it at its 1913 standard, and as 1913 expenses as adjusted are based on 1919 operation this means that they are very much less than they would have been had the company been in shape financially to operate and maintain its property at the standards which prevailed before the war.

The above figures speak for themselves; they show that on an equivalent basis this particular company, after paying its current expenses, had \$61,000, or 63 per cent less than it would have had under conditions as regards operating costs which prevailed in March, 1913, with which to take care of depreciation, pay its taxes and a return to the investor and maintain its credit. Fur-



thermore it should be remembered that even basing the March, 1919, showing on March, 1913, prices and wage rates, the company would have earned no more than 10 per cent—not on some assumed value, but on the cold cash that has actually gone into the property—and that it is actually earning at the present time considerably less than 2 per cent on this investment after allowing for proper upkeep of its physical property.

As already stated, the three companies considered in this article are fairly representative, Company A being more so than the other two since its fuel costs as well as its other expenses have increased enormously during the past three years, as has been the case with probably 90 per cent of the street railway companies over the country. The figures show that this company's operation for a typical month this year cost 65 per cent more than it would have cost under 1913 conditions as to material prices and wages and that its so-called nickel fare has now become 3 cents without making any allowance for higher taxes, increased money rates and greater allowance for depreciation which must be faced sooner or later. As a broad proposition, these figures would probably hold true for the majority of city properties over the country.

It has been shown that the purchasing power of the nickel the company receives for its service, taken as 100 per cent in 1913, has now shrunk to 3 cents in the case of Company A and to about 3½ cents in the case of Companies B and C; if higher taxes, capital costs and depreciation requirements were allowed for in addition to higher current operating expenses, the respective figures would be not more than 2½ and 3 cents. There is surely no good reason to think that wages and other costs which have, as a matter of fact, increased since the armistice was signed last November, will show any appreciable reduction in the near future and it is a practical certainty that they will never go back to what they were in 1913. In other words, like every other industry, the street railway business is on a permanently higher price basis both as regards operating costs and the cost of the capital needed to finance its requirements. Failure to recognize this fact or to take the necessary action after recognizing it, is responsible for the present predicament of the street railway industry generally.

#### THE SERVICE MUST BE PAID FOR

There is no cure-all by which the railway company, any more than other lines of business, can in the long run get 5 cents worth of value for 2½ or 3 cents, as it has been and is now trying to do. The street railways of the country need some \$600,000,000 to \$700,000,000 a year for improvements and extensions in order to keep pace with city growth and development, and in addition an average of about \$350,000,000 a year is needed to refund maturing obligations. There are substantially but two ways to get this money, either through municipal ownership or through some plan under which the private investor can count not only on the safety of his principal but also on a reasonable return on the money he puts into street railway securities. If an industry as large as this and as necessary to the public welfare is worth saving, then the shrinkage in the value of the pre-war nickel fare must, in the long run, be made up. This can be done through higher fares, through a combination of higher fares and relief from present franchise burdens such as expenditures for paving and other street improvements, transfer requirements, etc.,

or through municipal ownership by charging the deficit into the general tax bill.

If municipal ownership and operation is the plan ultimately adopted, the full cost of the service will still have to be paid in some way, either by the car rider or the general public. The physical property will continue to wear out and require replacement just as it does now; interest on the securities issued by the city to finance the property will have to be paid the investor the same as with private ownership; the current expenses will have to be paid under municipal operation, just as is now the case, and there is very good reason to believe that these expenses will be considerably higher than for the same class of service under private operation. Taxes may seem to be reduced under municipal ownership, but ultimately the amounts which the privately owned company now pays the city in the form of taxes must, of course, be collected from the other local taxpayers, so that there is really no saving, even here. In other words, whatever the final solution of the present difficulty may be, the community will, if it wants street-railway service, have to pay its full cost—something it is not doing now and has not been doing for several years past.

### Japanese Railways Report Favors Electrification

THE annual report of the Imperial Government Railways of Japan for the year ending March 31, 1917, has made its appearance in English in the form of a volume of more than 200 pages, with numerous illustrations, charts, maps, etc.

On the subject of electrification, the report has this to say in general: "Electric traction, as applied to railways, is especially suited to Japan, where the railways pre-eminently traverse mountainous regions, with the consequent prevalence of long tunnels and heavy grades. Already a good beginning has been made in this respect for suburban service in and around Tokyo and for the mountain section of the Shin-Etsu line over Usui Pass. The satisfactory results shown by the electrified line have led the authorities to consider the extension of the field of electric power to some of the heavy trunk lines."

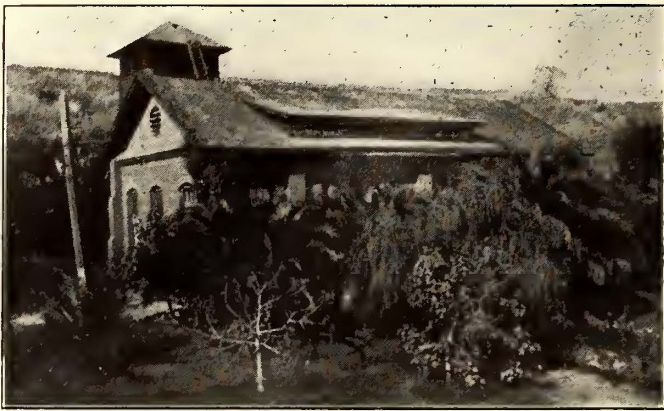
While the electrification work had its inception before the nationalization of the railroads, it has since been fostered and extended under the government management. The most recent extension of note was the

Year Ending, March 31	Electric Loco- motives	Mileage Traveled by Electric Locomotives Miles	Vehicle Mileage Hauled Miles	Energy Consumption, Kilowatt- Hours	Energy Consumption per Locomotive- Mile, Kilowatt- Hours
1913.....	10	87,722	536,215	1,642,050	18.72
1914.....	12	122,155	761,115	2,246,847	18.39
1915.....	12	136,409	900,879	2,549,124	18.69
1916.....	12	112,977	743,531	2,241,162	19.84
1917.....	12	127,444	841,449	2,535,118	19.89

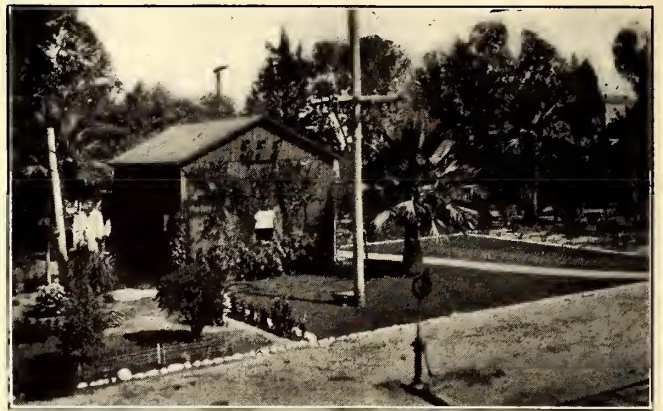
electrification of the Abt rail section across the Usui Pass, Shin-Etsu line, which was quite fully described in the ELECTRIC RAILWAY JOURNAL, Vol. 43, page 1393, June 20, 1914. The system used in this line was 600 volts, direct-current, while that on some of the earlier electrification work on the Tokyo-Yokohama electrification employed 1200-volt direct current.

The results of the electric locomotive operation over the Usui Pass are given in the accompanying table.

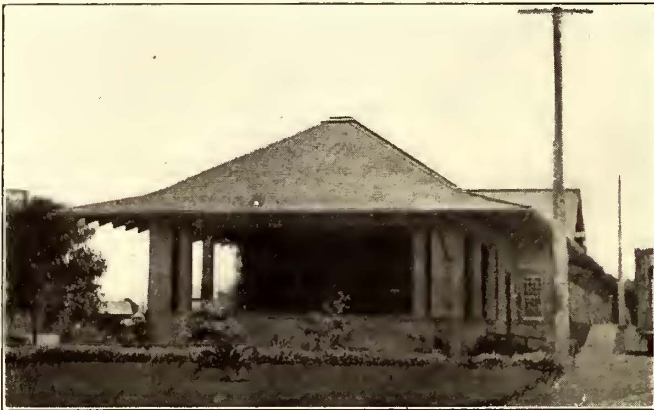




TREES HIDE THE UNATTRACTIVE WALLS



PALM TREES OFFSET UNGAINLINESS OF BUILDING



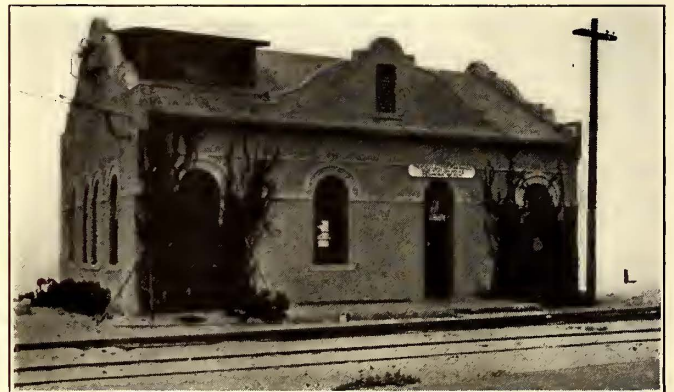
A STATION WITH WELL-PLANTED GROUNDS



WAITING STATION HARMONIZED WITH NEIGHBORHOOD



SHRUBBERY BREAKS THE GROUND LINE



VINES ARE THE CHIEF DECORATION HERE



A FRONT YARD FIT FOR A RESIDENCE



SECTION CAMP BURIED IN FOLIAGE

Examples of Successful Planting by Pacific Electric Railway



# Pacific Electric Has Complete Parking Program

## Railway Finds Expenditure for Improving Grounds Around Buildings to Be a Profitable Investment

By CLIFFORD A. ELLIOTT

Cost Engineer, Engineering Department Pacific Electric Railway,  
Los Angeles, Cal.

**T**HE maintenance of way department of the Pacific Electric Railway attempts systematically to utilize the natural climatic conditions which prevail in its territory for the beautifying of grounds around substations, passenger and freight stations, carhouses, shops, and section-camp grounds. In this semi-tropical climate lawns and terraces are green the year round, and tropical palms, flowers, trees and evergreen shrubbery contribute to the beauty of the landscape. For eight years the department has had an organization for handling the parking beautification program. This covers both the original work in parking the grounds and the upkeep of the grounds as well.

The procedure is for the chief gardener and his force to improve the grounds around the buildings, planting them with flowers, trees and shrubbery. Then the company furnishes garden hose and endeavors to interest the operators and agents, inducing them to give some of their spare time to watering the grounds and giving to them such other minor attention as may be needed.

Where section-camp grounds are improved, very little effort is necessary to persuade the Mexican track laborers housed there to aid in this work, as they are lovers of nature and appreciate the privilege of taking part in beautifying their surroundings.

The greater part of the maintenance work around the grounds, such as trimming of shrubbery and trees, caring for palms, mowing lawns, reparking, fertilizing and replanting grass and flowers, devolves upon the chief gardener and his staff.

The chief gardener is a man who has devoted his entire life to work of this nature. He makes it a point to select such flowers, trees, grass and shrubbery as are well adapted to the southern California climate and that blend properly with other plants in a given locality. He also considers the care required by different plants and the consequent maintenance expense with a view to minimizing this. In spite of the favorable climate, his task is not always an easy one, because at some points considerable sand is encountered. He does his best, however, with the aid of fertilizers and transplanted fertile soil. In the valley towns his task is easy because the soil is usually rich and favorable for carrying out parking plans.

When a park has been installed around a building or camp, the defines of the parking and the walkways

are outlined with rubble or washed stone obtained from near-by "dry washes." The stones are whitewashed, a practice that is found not to be burdensome as the climate is favorable to a long life of even the first coat of whitewash.

The beautifying of grounds plays an important part in the relations between the company and the public. Sometimes a small passenger waiting station is found

in a locality where the surrounding boulevards and residences are extensively parked. When possible the company tries to adapt its own grounds to the surroundings. Some years ago a small frame substation building was erected in a thickly-settled district. The community protested, but after the company had completed its parking plan the sentiment entirely changed. In one locality the parking of the station grounds proved to be a great boon to the people as it was used



A SUBSTATION SET IN A GARDEN

by them for town gatherings in the absence of a park of their own.

Tourists over the company's lines are favorably impressed by what they see of California from the car windows, and the company's regular patrons, living along its lines, appreciate its efforts in the line of horticulture.

In addition to the duties mentioned, the chief gardener and his force take care of maintenance work in trimming back trees along the right-of-way to provide clearance, especially grade crossings, where a dense growth of trees would totally or partially obscure the view of the track and highway. In assigning tasks of this nature, which come within the province of the maintenance-of-way department, to an experienced landscape gardener rather than to a "tree butcher" of the type which is in some places "turned loose" on the trees, the company management feels that the best results are obtained. Skilled supervision of this work gives dignity to it and permits the removal of obstructions without seriously marring the beauty of the foliage which has been disturbed.

In conclusion, it may be said that in general parking work around the grounds of structures the company's policy is to plant trees of such types that their long life and uniform and symmetrical growth may be insured. Of course, the native palm is a very important tree, and there are several types of cedar well adapted to the climate that retain their form from the start up to full growth.



# Inventorying Materials and Supplies

8613 Different Kinds of Materials Valued at \$916,317 Were Inventoried in Two Days at Cost of \$239.85—No Special Help and No Overtime

By B. J. YUNGBLUTH

General Storekeeper for Receivers Pittsburgh (Pa.) Railways

**T**O MAKE inventories successful six fundamental points must be considered: (1) A definite plan; (2) sufficient preparation; (3) personnel; (4) schedule of work; (5) speed, and (6) recapitulation.

## PLANNING THE WORK

Best results are obtained by working in close and sympathetic touch with the auditor. Our practice is to take a complete inventory at each store as of one date each year, which enables us to make the necessary arrangements sufficiently in advance and to plan it as any big job is usually planned.

An inventory taken in the stock books (see the illustration) is more accurate than a "blind" count. Note that one has the advantage of seeing before him at the time of counting the amounts on hand in the previous months together with the normal movement of the item. Therefore if the amount found at the time of inventory is more than was previously on hand plus what was received, or if it is abnormally below the amount on hand previously minus the normal movement, an investigation at the time the count is made is naturally prompted, easily made and productive of the greatest possible accuracy. Since the person making entries in the book is relieved of the work of writing a description of the material, he has plenty of time to scrutinize the amount said to be on hand with relation to the previous record. Errors in transcription also are eliminated.

In the inventorying of iron, cold-rolled steel, etc., the material is not actually weighed. Measurements of length are made with an 18-ft. stick properly graduated, and the average weight per foot, according to an authority like Kent's hand-book, is used to determine the weight. This very greatly reduces the cost, and investigation has proved that it is more accurate, owing to the errors that creep in when the stock is actually weighed.

Instructions relating to the physical work only are read and explained to all persons engaged in inventory work. The following abstract of these for the inventory as of May 1, 1919, together with a study of our stock book sheet, will enable the reader to understand our plan.

The annual inventory is nothing more or less than our regular monthly stock-taking excepting that items stored in bulk such as nails, rivets, etc., which we are permitted to estimate each month, must be accurately counted or weighed as the case may be.

*Preface:* The stock books contain a list of every article we have in stock. Books may be taken from the office only after noting on chart, date, hour, and initials of team. Material must be counted in the sequence as listed in stock books. Date each page of book and initial it just as you go along. A schedule is made indicating the books and their sequence, to be used by each team.

*Neatness:* All entries in the stock book should be made with indelible pencil. No erasures are permitted. If corrections are necessary, cross out the first entry with two light lines without obliterating it and write correct figures above it, showing your initials.

No attempt is made to embarrass you because of errors made. We do ask you to show your initials for counts, corrections and changes. If questions arise, it helps to know whom to ask.

*Counters:* The person counting the stock shall say what he finds in the bin, giving the class number and the number of pieces. The person handling the stock book shall check the class number and the description given. In case of any differences the class number in the stock book shall be considered as correct after verifying same with the 1918 stock book.

Each item must be actual count; no estimates accepted.

The person handling the stock book will watch quantity said to be on hand, and if there is any great difference compared with previous month, the count shall be verified and the stock book marked "O.K." in the "On Hand" column with the initials of the person handling the stock book.

When the location of material in stock book is incorrectly noted or missing, the correct location is to be shown in the stock book. If any overflow stock of the same material is stored in the annex, platform or yard this should be shown.

*Units:* Frequently the accounting unit is not the same as the stock book unit, such as reels of wire, etc. The number of reels or coils of wire must be shown as usual, and in addition the weight or length is required for accounting purposes. Express both units in stock book in "On Hand" column at the same time the count is made.

*Entries in Stock Book:* If there should be on hand any items not written in the stock book, please locate the stock book in which such material should logically be and make the entry with indelible pencil. Use care to get full descriptions, dimensions, etc., and show location.

*Paint Dots:* As each item is counted dot the piece or containers (like barrels, kegs, boxes, etc.) with pink paint (a different color is used each year). In the case of nails, nuts, rivets, etc., in bins at least one dozen should be dotted. The dot should not be larger than a penny and preferably smaller.

Care should be taken not to obliterate any paint dots made at previous inventories. Do not place the paint on the contact surfaces of electrical parts or on the exposed surfaces of car trimmings or other material that would be damaged thereby. The dotting in no instance is burdensome, it does not delay the work. It verifies that all items were inventoried. Paint does this better than anything else. The mark is not without further value, it shows how long the stock is on hand.

To insure correctness of the inventory it is necessary to record whether the receipts and the issues during the period were "before" or "after" the stock of each item was counted as evidenced by the presence or absence of the painted dot.

*Receipts:* No materials will be received during the inventory period excepting shipments applying on discount invoices or for special rush jobs. Such receiving cards as are necessary will be marked by the man inventorying the section in which such goods are stored "before" or "after" with his initials. This must be done each day.

Where the count has been made and entered in the stock book the goods received may be put into stock and no additional amount entered in the stock book, provided the receiving card is marked "after." Where the receiving card is marked "before," care must be taken to see that such quantity is included in the amount on hand.

*Issues:* The counter man will be particular to mark each requisition either "before" or "after." Where only a part



PITTSBURGH RAILWAYS COMPANY.					
C. A. Fagan, W. D. George, S. L. Tone, Receivers.					
AUDITORS OFFICE					
RECAPITULATION OF INVENTORY.					
TAKEN AT _____ AS OF MAY 1ST, 191__					
CLASS No.	DESCRIPTION	INVENTORY VALUE	RECORD VALUE	OVER VALUE	SHORT VALUE
<b>MAINTENANCE OF WAY AND STRUCTURES</b>					
1	Ballast				
2	Ties				
3	Rails				
4	Rail Fastenings and Joints				
5	Special Work				
6	Paving Materials				
7	Sand				
8	Salt (Bulk) and Rattan				
9	Signal and Interlocking & Telephone and Telog. Material				
10	Line Poles				
11	Wire and Cable for Production, Transmission, etc.				
<b>GENERAL</b>					
64	Boiler Cleaning Compounds				
65	Car Cleaning Compounds, Disinfectants, etc				
66	Electrical Supplies				
67	Canvas, Rubber and Leather Goods				
68	Brooms and Brushes (all kinds)				
69	Stable Supplies				
70	General Supplies				
71	Hardware and Tools				
72	Tools, all kinds, except Machine Tools				
73	Furniture and Furnishings				
74	Scrap Copper, Brass, Babbitt, Tin, etc.				
75	Scrap Iron and Steel, including Scrap Rails, etc.				
76	Rents				
TOTAL					

RECAPITULATION OF INVENTORY USED BY PITTSBURGH RAILWAYS

of the material issued on any one requisition has been counted, the words "before" or "after" shall be noted opposite each item on the sheet. This must be done when material is removed from the bin.

**Completion of Inventory:** After the inventory has been apparently completed, certain persons will be detailed to make an actual inspection of the stock and by the presence or absence of paint dots to determine whether any materials may have been missed. It will be the practice to exchange sections in doing this, i.e., the person who counted stock in a given section will inspect the work done in some other section.

GETTING PREPARED

Inventories are effected more by what is done in the 360 days than in the few actually required in listing the stock. The stock must be kept in good physical condition regardless of the plan of operation. Sufficient space or room is more necessary than fine fixtures or expensive buildings.

Where the necessity exists, material should be marked for identification. Material should remain in the original packages instead of the entire stock being thrown into bins. That which it is necessary to place in bins should be neatly piled or placed. Given the same bin, material can be placed, even piled, in a way to make counting difficult, or it may be placed to afford proper visibility to count it without handling. Intelligent thought shows the way.

Having in mind the quantities of certain goods required by the man on the job, we specify in purchasing that the manufacturer ship them in uniform packages, for instance:

Line insulators .....	50 per box
Line bars .....	50 per box
Babbitt .....	100 lb. box
Fish paper .....	25 lb. package
Channel gum .....	5 lb. package
Armature coils .....	1 set per box
Grid resistors .....	1 frame per box
Commutators .....	1 per box

The manufacturer makes no charge for this. He is glad to accommodate. When it is inconsistent to ask the manufacturer to put certain other goods in packages, much is gained by packing them in our receiving room. Our practice includes such items as:

Brake shoe keys .....	10 package
Pipe fittings (small) .....	25 package
Open links .....	25 package
Segments .....	10 package
Fingers .....	25 package
Small electrical parts .....	100 envelope

All packages are tagged to show quantity and description of contents. Besides keeping the material in good condition while on the shelves, the packages in many cases go to the ultimate consumer without additional counting, thus eliminating liability to error, damage or loss. The time is well spent.

Chain, rope, wire and similar heavy material, the weight of which is required, is kept on platforms used with transveyor trucks so that they may be run on the flush floor scale and weighed without handling.

A complete list of items to be inventoried under the different classes is as follows:

- |  |  |
|--|--|
| MAINTENANCE OF WAY AND STRUCTURES                              | 32 Springs, all elliptical and helical body, truck, etc.         |
| 1 Ballast  | 33 Pipe and conduit, iron and steel, including steel tubing      |
| 2 Ties   | 34 Pipe and conduit fittings                                     |
| 3 Rails  | 35 Car-body trimmings  |
| 4 Rail fastenings and joints                                   | 36 Fare boxes, fare registers and repair parts                   |
| 5 Paving work  | 37 Arc and common headlights and repair parts                    |
| 6 Paving materials   | 38 Signs and their repair parts                                  |
| 7 Sand   | 39 Electric car heaters and repair parts                         |
| 8 Salt (bulk) and rattan                                       | 40 Car stoves and heaters other than electric, etc.              |
| 9 Signal and interlocking and telephone and telegraph material | 41 Mechanical and electrical devices for car equipment, N. O. S. |
| 10 Line poles  | 42 Fenders, life guards and repair parts                         |
| 11 Wire and cable for production, transmission, etc.           | 43 Paints and varnishes  |
| 12 Pole fixtures and electric line accessories                 | 44 Glass   |
| 13 Bonds   | 45 Air-brake material (all makes)                                |
| 14 Lumber and timber for maintenance of way and structures     | 46 Magnetic brakes and repair parts                              |
| 15 Castings for maintenance of way and structures              | 47 Brakeshoes  |
| POWER PLANT AND SUBSTATION                                     | 48 Car wheels  |
| 16 Boilers and boiler apparatus repair parts                   | 49 Car axles   |
| 17 Engine repair parts   | 50 Material for service cars, N. O. S.                           |
| 18 Turbine repair parts  | 51 Trolleys and repair parts                                     |
| 19 Armatures and repair parts                                  | 52 Controllers, contactors and repair parts                      |
| 20 Switchboards and switch-board equipment                     | 53 Car type motor repair parts                                   |
| 21 Mechanical devices for power stations                       | 54 Gears, pinions, gear cases, lids and parts                    |
| 22 Ash and coal handling machinery, hoists, etc.               | 55 Bearings  |
| 23 Storage battery parts                                       | 56 Circuit breakers, power switches, resistances, etc.           |
| CAR EQUIPMENT  | 57 Wire and cable for car equipment uses                         |
| 24 Lumber for car equipment, wagons, etc.                      | 58 Insulating materials  |
| 25 Bolts, nuts, washers, rivets, pins, studs, etc.             | 59 Electrical hardware   |
| 26 Metals, N. O. S.  | 60 Machinery, machine tools and repair parts                     |
| 27 Bar iron and steel  | CONDUCTING TRANSPORTATION  |
| 28 Drawheads, automatic couplers, journal boxes and lids       | 61 Fuel  |
| 29 Castings, iron and steel, rough and finished, N.O.S.        | 62 Lubricants  |
| 30 Castings, brass and bronze, rough, buffed and finished      | 63 Illuminating and other oils, gasoline, etc.                   |
| 31 Forgings  |  |

J. O. CALLERY, H. B. A. STEWART, C. A. FAGAN, RECEIVERS		MONTHLY RECORD OF NEW GOLD AND SCRAP MATERIALS												PERFECT LINE - Year 1919		RED LINE - Year 1920																					
STOCK BOOK No. 67		SECTION 11 PITTSBURGH RAILWAYS COMPANY												JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
NAME AND DESCRIPTION OF ARTICLES		Class	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value			
SACK BOX TO 100 LBS. WEIGHT, DESCRIPTION & CLASSIFICATION		CAR	100	500.00																																	
23 MAT, 120 TOL, WASH, FOR SEWERS		PA	63141	2300.00	500.00	200.00																															
BURNING, D. C.																																					

SPECIMEN PAGE FROM STOCK BOOK OF PITTSBURGH RAILWAYS. THE REQUISITION NUMBER IS SHOWN WITH THE QUANTITY ORDERED AND DUE. THE DATES ABOVE THE QUANTITY ORDERED INDICATE INSTALLMENT DELIVERIES DESIRED



64 Boiler cleaning compounds	70 General supplies
65 Car cleaning compounds, disinfectants, etc.	71 Hardware and tinware
66 Electrical supplies	72 Tools, all kinds, except machine tools
GENERAL	73 Furniture and furnishings
67 Canvas, rubber and leather goods	74 Scrap copper, brass, babbitt, tin, etc.
68 Brooms and brushes (all kinds)	75 Scrap iron and steel, including scrap rails, etc.
69 Stable supplies	76 Reels.

#### PERSONNEL

Only persons regularly engaged in stores work are employed on the inventory. Each is given the work he is best qualified to do. Those most familiar with the stock do the actual counting. Those experienced in handling the stock books and having an intelligent idea of what they mean, make the record and scrutinize the result. A pair comprises a team working together throughout the period.

Those persons in the department who are not particularly experienced are employed as counters, being used in addition to the inventory team but working just ahead. As each lot of goods is counted, a slip of paper showing the result is placed with the material. The inventory team is required to use reasonable care to "size up" the quantity and reconcile it with the counter's slip. Laborers are used for weighing the bulk material in conjunction with the counters.

Through the use of the men and women of the office force, these are afforded an opportunity to acquaint themselves with the appearance of the materials, enabling them to perform their regular duties more intelligently.

To satisfy himself as to the correctness of the inventory, the auditor details five or six men to work on the teams and to select at random items which others had counted and check the counts or to make such investigations as he considers desirable.

#### SCHEDULE OF WORK—SPEED

Each team is employed with the materials with which it is most familiar. The sequence in which the various kinds are to be inventoried is carefully considered, so that the most painstaking work is done first while the workers are fresh. Care is taken to keep the workers properly separated so that one team will not interfere with the work of another. Of course, it is necessary that the counters be first employed with the materials to be listed first so that each team may have the advantage of their services. A copy of the schedule is supplied and in addition written instructions are given to each team.

Any inventory requiring considerable time interferes with normal operation. It is necessary to supply the daily wants of others and to receive materials which perhaps are badly needed or those on which there is a discount for prompt payment. Each issue and receipt during the inventory period creates a potential source of error, and in the aggregate a considerable discrepancy may result.

The work being naturally tedious, and after the first or second day the efficiency of the workers is reduced, their speed is less and they are more likely to overlook the apparently little things. On our own property we are told of an inventory years ago which was in progress after seven weeks. Its value was exceedingly doubtful. This company some years ago made partial or installment inventories in connection with the perpetual

inventory scheme. Perhaps it is sufficient to say that the plan was abandoned, and everyone is glad of it.

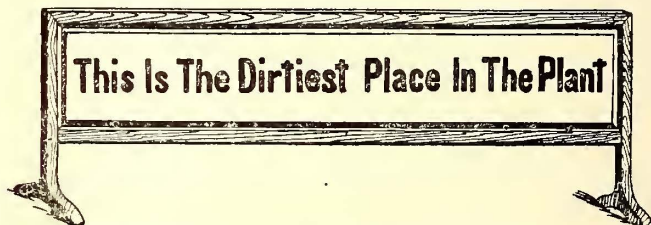
#### RECAPITULATION

A tabulated result of inventories should be made so as properly to analyze and criticize the operation of stores. Only the usual comparison of the quantities found with the quantities on the books is of little value. Most officials have not the time, if they have the inclination, to give it sufficient study. Without a proper recapitulation it is difficult to determine just what has transpired. The form on page 519 illustrates our recapitulation according to our standard classification of materials and supplies.

The last inventory for which the results are known at this writing covered stock valued at \$719,182, which as compared with the auditors record showed a net total discrepancy of only \$1,652. This is equivalent to 0.11 of 1 per cent of the value of materials disbursed during the year. The results of other inventories since adopting this plan were equally satisfactory.

### New Method for Removing Danger Spots in Large Plants

A plan successfully used recently in eliminating danger spots in a large plant is suggested by the accompanying illustration. A "dirty plant committee" selected the places where this sign was put up. If a



THERE ARE SPOTS IN RAILWAY SHOPS AND ELSEWHERE WHERE THIS SIGN MIGHT BE EFFECTIVE

place was not cleaned up in reasonable time a photograph of it was taken with the sign on it and copies of the picture were placed on several bulletin boards in the plant and on the manager's desk. This procedure always brought results. This "stunt" was described in the National Safety Council's executive series recently.

A member of the Council reports that the above sign has been used with good results, but that it has been found best to use also a sign reading: "This is the cleanest place in the plant." This company finds that the men put forth greater effort to obtain the "clean" sign than they do to prevent receiving the "dirty" sign. The experience of more than one electric railway master mechanic or superintendent shows that all that is needed to insure neatness about a plant is for the man in charge to call attention, diplomatically, to lapses from good order.

The National Highway Traffic Association is studying this year a number of topics which are of interest to the electric railway field. Among these are: Regulation of pedestrian traffic, segregated-traffic streets in municipalities, parking and ranking of vehicles, safety zones, legislation relative to highway transport, and motor trucks, motor buses and trailers—weights, speeds and dimensions.



# Power-Saving Instruments a Long-Standing Success in Great Britain and Ireland

**For Years a Large Proportion of the Cars in the United Kingdom Have Been Equipped with Devices for Fostering Careful Operation and Economical Use of Current—Many Managers Would as Soon Be Without Such Instruments on the Cars as Without Controllers or Brakes—Value of Follow-Up Is Recognized by Maintaining the Motorman's Inspector as a Permanent Official**

**L**ONG before the use of devices to promote energy saving on cars was a live question in America, the tramway managers of the United Kingdom had a very sincere interest in the subject. In fact, to them the advisability of using such instruments was clear almost from the day that they began electric operation. Their cars were and still are much lighter than cars of similar capacity over here, but the condition that many of them had to buy rather than generate power and that they also had to pay comparatively high rates for it led them to study the science of controller manipulation for the frank purpose of keeping down their power bills.

The first instruments developed were the watt-hour meter and the ampere-hour meter, and both types in greatly improved form are now in general use. A German current-time clock which had the dial of an ordinary clock but the hands of which moved only when current was passing through the controller has also been used to some extent. In the meantime, American instruments have invaded the field also. For a number of years past the great system of the London Underground Electric Railways has been using Rico coasting recorders on four of its subway lines, while very recently a number of Arthur power-saving recorders have been sent to the Southampton Tramways, the Metropolitan Electric Tramways and several others. Judging from personal discussions with several British managers, systems without instruments of some kind will soon be a rarity in their country.

## CONSENSUS OF BRITISH OPINION ON CAR-CHECKING DEVICES

What British tramway managers as a class have to say about the utility of devices to promote energy saving is to be gleaned from two questionnaires answered by them in 1911, and again in 1913. These questionnaires were prepared by T. B. Goodyer, manager Croydon Corporation Tramways and now president of the Municipal Tramways Association. Mr. Goodyer's personal experiences are detailed later in this article.

In his first questionnaire Mr. Goodyer inquired as to what power saving had been obtained through the use of meters or other devices. The percentages reported varied from 5 to 23.37 per cent. One reply (Preston) significantly stated that in terms of the fuel bill the saving was 12 per cent. In another case (Gloucester), a saving of 21 per cent was reported as an improvement over several years use of what was described as "a bonus system which worked well for several years." One user noted that his money had been returned in less than six months, while several larger users stated that they had saved thousands of pounds. As evidence that

light cars are operated in the United Kingdom, it may be noted that the maximum pre-meter consumption per car-mile reported was 2.11 kw.-hr. and the minimum, 1.7 kw.-hr., and the consumptions were reduced to 2.01 kw.-hr. and 0.84 kw.-hr. respectively.

Even in replying to the earlier questionnaire, a number of managers observed that instruments of the kind under discussion confer auxiliary benefits. To inquire further into this aspect, Mr. Goodyer communicated with thirty-five systems on the value of such instruments in the detection of faulty cars. The replies showed practical unanimity on this subject, the manager of the Bexley Heath Tramways actually writing: "It was for the purpose of detecting faulty cars that I purchased some meters several years ago." Decreased wear and tear, fewer electrical troubles, more even running and lower upkeep charges were mentioned in both general and specific statements. Among the last were those of the Cape Town (Africa) Tramways which reported the following increases in the life of equipment: Armature parts, 44 per cent; motor bearings, 15 per cent; axle bearings, 57 per cent; car wheels, 22 per cent, and brakeshoes, 41 per cent. On Mr. Goodyer's own system, the saving in brakeshoes was given as 26 per cent.

One would naturally expect that the value of meters and other instruments on cars would attain its maximum during a period of extraordinary fuel shortage. It is a fact that the many years of careful checking proved a boon, but it was usually out of the question to maintain the high standard of pre-war days. There were ample causes for this, such as the enlistment of the majority of skilled motormen and supervisory officers, the letdown of track and car maintenance, the increase of traffic without increase of cars and, in many cities, the inability to run as usual on account of the darkening of streets against air raids.

The following accounts of practices on individual roads are self-explanatory. It may be added, however, as a point of great importance to power saving and careful running that British tramways often have supervisory officials who bear the title of "motor inspector" but whose actual function is the supervision of motormen. It is wisely held that it is just as important to have efficient men to spend the corporation's money as it is to have efficient men to collect it. Therefore, the motor inspector is just as permanent an official as the ticket or traffic inspector.

## INDIVIDUAL BONUSES ABOLISHED AT DUBLIN

The Dublin United Tramway Company (1896) Ltd., began to install measuring instruments in 1909, and now has 260 out of some 320 cars equipped with ampere-hour meters of C-H, Ferranti and British Thomson-



Houston makes, with the last-named make predominating. Formerly it was the practice to inspect meters every three months, but this was found unnecessary. They are now examined only when the motormen's reports indicate some unusual variation. As purchased, the

lel and coasting positions for practically every block along each route. This detail instruction book was really necessary because where two or more inspectors are instructing the men they are likely to have different opinions that must be brought into line by means of such specific directions. It is, of course, not intended that a motorman should have these rules memorized. The difficulty found, says G. Marshall Harriss, general manager, was that a man who was low down on the list and wasting energy would say: "Will you show me how I am to save it?" The easiest way appeared to be to put a booklet into his hands and demonstrate here and there according to the printed regulations.

Dublin United Tramways Co. (1896), Ltd.						
Motorman's Daily Current Consumption Sheet						
LINE						
Motorman _____				Date _____		
Segment No.	Terminals	Time	Car No.	Meter Reading	Units	Remarks: re-taking up or handing over cars
1	SHED DRUMCONDRA WHITEHALL					
10	RATHFARNHAM DRUMCONDRA SHED					
Total Passengers for day .....			Car Out .....			
GENERAL REMARKS:						
I certify this return to be correct .....						
Ind. News, Ltd.—N18						

MOTORMAN'S DAILY CURRENT CONSUMPTION SHEET, TRIP BY TRIP

meters are guaranteed to be accurate within 2½ per cent fast or slow, but for car-checking purposes variations up to 7 per cent may be permitted. Ampere-hour meters are preferred to watt-hour meters because of their greater simplicity and because the variations from the standard line potential of 500 volts are not important enough to impair the value of comparisons. The low cost of maintenance may be judged from the fact that these 260 meters are being kept in condition at an annual cost of but £160 (\$768) for both wages and testing.

Up to the time of the coal shortage crisis, the traffic manager was not in immediate contact with the meter performances of the motormen, as all that came to him was a monthly report of the efficiency of each motorman on the basis of kilowatt-hours per every 100 car-miles run. Much more effective results were secured by adopting the trip-by-trip record and check illustrated. The initial reading of the meter is put down by the night foremen, and as the motorman returns to the carhouse on each round trip or journey he submits his record to the depot inspector for initialing. This is where the value of the traffic department's check becomes apparent, for if there is any reason for undue consumption of energy, as heavy loading, blockades, bad brakes, etc., it can be explained at once while the circumstances are fresh in memory. On the other hand, if the conditions have not warranted excessive use of energy, the motorman is obviously at fault and is open to reinstruction. This change to direct control was made in July, 1918. Its benefits may be gaged from the fact that at one depot the highest man reduced his energy consumption from 1.89 kw.-hr. per car-mile in May, 1918, to 1.77 kw.-hr. in September, 1918, while even the lowest man cut his requirements from 1.62 to 1.56 kw.-hr., per car-mile. As elsewhere in the United Kingdom, permanent follow-up men called motor inspectors (of whom there are two in Dublin) are employed to maintain the efficiency of the motormen.

In August, 1918, a special printed appeal in book form was issued. This publication not only contained the usual instructions on acceleration, coasting and braking, but undertook also to specify the series, paral-

In discussing this subject, Mr. Harriss writes that he has a very high opinion of the value of checking instruments on cars. He has gone very carefully into this question and has found that most of the tramways which are not very keen on the subject have never given them a fair trial. He, on the contrary, has found that the motormen who have the best efficiency records are usually the best drivers all around. He assumes that if they are alert and keen in trying to save current, they will be keeping a careful lookout to avoid accidents.

Formerly it was the practice at Dublin to give the highest two men of a depot a bonus of 10s. (\$2.40) and the third man a bonus of 7s. 6d. (\$1.80) every six months.

Dublin United Tramways Company (1896), Ltd.	
REPORT SHEET.	
No. _____	_____
No. <i>Inspector</i>	<i>Inspected</i>
<i>To Traffic Supt</i>	
<i>Sr.</i>	
<i>I beg to say, the following Cars at this depot are using excessive current</i>	
<i>Harold's Line Car 50, 16 units for journey</i>	
	<i>177.4820</i>
	<i>240.15</i>
<i>Devereux</i>	<i>191 10</i>
	<i>260 10</i>
	<i>288 10</i>
Signed, <i>M. Hassan</i>	
<i>Inspector</i> day of <i>July</i> 19 <i>18</i>	

CARHOUSE INSPECTOR'S REPORT ON CARS USING EXCESSIVE CURRENT (Starting number is put on by night foreman. Inspector initials report at end of each trip).

This proved unsatisfactory. It discouraged the mass of the men who earned no prize money and tempted unscrupulous men to run by intending passengers for the sake of showing low energy use. Furthermore, the men prefer receiving like treatment. It has not been difficult for the traffic department to keep them interested in careful operation, especially as the trip-by-trip check at the carhouse encourages them to report immediately car defects that would otherwise go uncaared for and possibly make harder work for them. The men also appreciate that careful attention to power saving goes



hand in hand with greater safety to themselves and their passengers.

TEN YEARS SATISFACTORY METER EXPERIENCE  
AT ABERDEEN

The Aberdeen Corporation Tramways have enjoyed a long and satisfactory experience with the use of the C-H ampere-hour meters. As early as 1908, these meters were installed during the administration of R. Stuart Pilcher as general manager. He enthusiastically advocated the use of such devices in a paper before the Municipal Tramways Association. Mr. Pilcher's enthusiasm is shared fully by his associate and successor, William Forbes, who has set himself the task of making the most of the savings possible with such devices.

Like other British tramways, Aberdeen has a supervisory official called motor inspector—really motorman's continuing instructor—whose duty it is to ride the cars for the purpose of helping the motormen in their work. This feature of organization is, of course, most helpful in getting the fullest benefits out of car-checking instruments that depend for high efficiency on the proper handling of controller and brakes. However, when emergencies arise, as in the case of the coal shortage due to the war, the general manager himself must take a hand to secure top-notch results. As an example of this, the following circular issued by Mr. Forbes under date of Oct. 17, 1918, is worth quoting:

ABERDEEN CORPORATION TRAMWAYS—COAL SHORTAGE

Strenuous efforts are being made all over the country to cope with the present emergency caused by the shortage of coal. Coal must be saved and we have to adopt means whereby the contribution of the Tramways Department amounting to 15 per cent of our last year's total consumption of power must be saved. Various schemes have been adopted by different tramway authorities in order to effect the desired economy, and many towns are greatly curtailing their services. We could, I think, save a considerable amount of power if all employees would endeavor to carry out the following suggestions, viz.:

1. Don't use power longer than is absolutely necessary. Throw off power when full speed is attained and coast the rest of the distance.
2. Get off the resistance notches as quickly as possible, without rushing the notches, onto full series or full parallel. Never run on parallel unless you can take full advantage of the last notch. It is simply wasting power to throw off on the first or second parallel notches. The resistances have used up the most of it; the motors have only got a fraction of the power consumed. The same work could have been done with series at half the cost.
3. When starting from a station on a decline, release the brakes and allow the car to start on its own stored energy.
4. Run on series between Castle Street and Market Street and vice versa unless pressed for time.
5. Always endeavor to let the car in front have a 15-yd. start before notching up, particularly after the power has been cut off for a time.
6. Report at once any cars with hand brakes too tightly adjusted or any other defects.
7. Try to save at least one unit a day. It is a step in the right direction and is helping to win the war.

Conductors can assist the motormen materially in saving power by observing the following rules:

1. Call the name of the station when at least 50 yd. distant in order to give passengers time to get onto the platform before car stops and promptly bell the motorman if there is to be a stop or not.
2. Keep a sharp lookout for intending passengers.
3. Endeavor as far as possible not to have a second stop once the car is started. This can be best done by observing rules Nos. 1 and 2.
4. Keep the platform clear as far as possible. Don't have passengers standing on platform if there is room inside or upstairs. It obstructs the view of the motorman and is liable to cause accidents and delays when passengers are getting on and off.

By observing these rules you will help your motorman to "save a unit a day."

A return showing the number of units consumed daily will be posted every forenoon in the muster room.

Following the issue of this circular, the following savings were obtained week by week compared with the same weeks of the preceding year: First week, 3000 kw.-hr.; second week, 5000 kw.-hr.; third week, 4900 kw.-hr.; fourth week, 2900 kw.-hr. As the average energy consumption for the fiscal year ended May 31, 1918, was 54,000 kw.-hr. a week, it is obvious that this appeal was effective. On a money basis, the average saving of 3950 kw.-hr. per week at 0.917d. per kw.-hr. was \$72. The record of saving is the more noteworthy because travel had increased more than 150,000 a week equal to 20 per cent as compared with the preceding year.

In discussing follow-up practices, Mr. Forbes expressed the opinion that it was unwise to spur on the men unless the management was certain that savings could be augmented. It was also good policy to make the appeal at the time when coal saving was uppermost in the minds of all. He estimated that the checking devices were good for at least 15 per cent saving in energy

Aberdeen Corporation Tramways.								
<b>CURRENT CONSUMPTION SHEET.</b>								
Meter Readings for <i>Friday</i> 1 day <i>November</i> date, 191 <i>8</i>								
ROUTE.	CAR No.	UNITS.	ROUTE.	CAR No.	UNITS.	ROUTE.	CAR No.	UNITS.
Bridges	42	123	Circular Queen's Cross	31	106	Woodside	72	121
	43	129		33	105		73	117
	44	132		35	108		74	114
	45	126		30			75	
Torty	12	109		24	52		26	96
	13	109		61			5	45
	55	115					26	57
	56	111					57	57
	27							
REMARKS:								
Signature: <i>John Clark</i>								

CURRENT CONSUMPTION SHEET USED IN ABERDEEN

as compared with no devices and instruction. They had a further value in promoting better driving of the car, thus saving the equipment and effecting a reduction in accidents.

The total number of ampere-hour meters in use at Aberdeen is eighty-four, and they are installed on both passenger and service cars. A meter card of the type reproduced is carried in every car. This record identifies the date, car number, route, successive totalized readings of the meter and separate readings of the kilowatt-hours used on the first and second shifts by the respective motormen. Thus it will be seen that there is one card per car instead of one card per motorman. These records are transferred to a daily "Current Consumption" sheet by the carhouse foreman, following which the records go to headquarters for transcription to a sheet covering the day-by-day records for the whole system by full weeks.

The men are asked to give, and do give their best services without the offer of individual bonuses. The fact that they are organized does not deter them from



trying to run the cars as economically and safely as they can. It is simply a matter of good management to see that they do not lapse into unconscious negligence.

From the mechanical and electrical standpoints the meters have given little trouble. A deviation of 5 per cent from perfection, fast or slow, is held permissible. The instruments in fact have required very few repairs

As suggested earlier, the Croydon Corporation Tramways were early users of electric energy meters, all the cars at Croydon being equipped since 1910 with a total of seventy-five C-H ampere-hour meters. The matter of maintenance has hardly been a factor, since not more than one or two meters are in the repair shops at any one time.

Excellent results have been obtained without the use of a bonus system. To use Mr. Goodyer's own expression: "Pots of money have been saved by these devices." In money, the total saving from March, 1910, to March, 1916, was about £27,000 (\$129,600). Of course this saving means that the installation, upkeep and record-keeping cost of the ampere-hour meters has been recouped many times over. The previous average energy consumption of 1.281 kw.hr. per car-mile was lowered by 20 per cent.

That Mr. Goodyer has kept in constant touch with the energy-saving problem appears from such detailed records as Tables I and II which show, in detail, the

UNITS PER CAR MILE.															
R.C.T.								DATE: 17 <sup>th</sup> July 1918							
CAR No.	O. W.	O. L.	B. L.	E.C. W.	C. W.	E.W. S.J.	B. E.	CAR No.	O. W.	O. L.	B. L.	E.C. W.	C. W.	E.W. S.J.	B. E.
1	1.32							19							
2								20							
3	1.06							21	1.21						
4								22					1.13		

REPORT FORM FOR UNITS PER CAR-MILE, READING CORPORATION TRAMWAYS

aside from the replacement of a few brass wheels. Cleaning and tests are carried out only when the records indicate that not the men but the meter is at fault.

NINE YEARS' SERVICE TO DATE AT READING

The Reading Corporation Tramways was only one year after Aberdeen in taking up the C-H ampere-hour meter, the installation being made in 1910. All of the thirty-six cars in service are equipped. The meters were sold originally on the basis of having the makers take care of all repairs and calibration for a period of seven years. Owing to war conditions, it was not practicable for the makers to renew this agreement. With the ending of the war, however, the meters were sent to them for a general overhauling. Five per cent variation up or down is held to be reasonable inasmuch as these meters do not have to be so exact as a house meter, for

example, whose readings are the basis of a monthly invoice. The savings due to the use of this checking device are estimated at 15 per cent. The men are unionized, but consider the use of a meter a matter of course. No awards are given specifically

R.C.T. METER READINGS.											
DATE 2/10/18					CAR No. 20						
ROUTE					CAR Letter						
Motorman's Name	From	To	Meter Reading			OFF					
J. Williams	7.33	12.38	0	1	8	2	4				
J. Rodgers	12.28	6.19									
F. George	6.19	10.36	0	2	7	1	0				
Checked <i>IRB</i>	Meter Reading IN	0	2	7	1	0					
Checked	" " OUT	0	1	3	5	6					
MILES RUN	119	UNITS	1			3			5		
U.P.C.M.	1.13										

METER RECORD, READING CORPORATION TRAMWAYS

for good meter records, but every motorman who has a satisfactory general service record receives 10s. (\$2.40) every three months, or 20s. extra at end of the fourth quarter of the year, if he has a continuously good record. The average energy consumption during the fiscal year ending March 31, 1918, was 1.52 kw.-hr. per car-mile. Two accompanying forms show the character of meter reading record kept on the car by successive motormen during the day and the assembly for all cars on all lines made up day by day from the car records.

TABLE I—CONSUMPTION OF ELECTRICAL ENERGY IN KILOWATT-HOURS PER CAR-MILE AND SAVINGS TO DATE RESULTING FROM THE INSTALLATION OF AMPERE-HOUR METERS, CROYDON CORPORATION TRAMWAYS

Date	Kilowatt-Hours per Car-Mile	Savings	Savings to Date	Gross Savings If Taken on Basis of 1.28 Kw.-Hr. per Car-Mile
February, 1910.	1.29			
March, 1910.	1.281	£85-8-0	£85-8-0	£85-8-0
March, 1911.	0.976	4,984-18-3	5,870-6-3	4,984-18-3
March, 1912.	0.929	806-15-2	6,677-1-5	5,594-0-10
March, 1913.	0.938		6,677-1-5	5,695-3-0
March, 1914.	0.027		6,677-1-5	4,628-13-4
March, 1915.	1.071		6,677-1-5	3,720-0-0
March 3, 1916.	1.089		6,677-1-5	2,613-7-6
			£6,677-1-5	£27,321-10-1

TABLE II—CONSUMPTION OF ELECTRICAL ENERGY PER CAR MILE, CROYDON CORPORATION TRAMWAYS

	Kilowatt-Hours per Car-Mile
April 1, 1909, to Feb. 21, 1910.	1.29
Average results on one car metered for one week, equivalent to £21-2-10.	0.87
Weekly saving when twenty-four cars were metered:	
March 18, 1910.	£12-13-0
March 25, 1910.	30-1-0
March 31, 1910.	42-4-0
Total saving for three weeks.	£85-8-0
Seventy-five cars equipped with meters by September, 1910:	
Average per mile, year ended March 31, 1911.	0.976
Average per mile, year ended March 31, 1912.	0.929
Average per mile, year ended March 31, 1913.	0.038 (1)
Average per mile, year ended March 31, 1914.	1.027 (2)
Average per mile, year ended March 31, 1915.	1.071 (3)
Average per mile, year ended March 31, 1916.	1.089 (4)

Notes: 1 and 2 are due to motor-bus competition, stopping between stopping places to take up passengers and increasing vehicular congestion. 1, 2, 3 and 4—same causes, plus many new motormen, darkened streets, time of journey lengthened and less cars with more stops to take up and set down passengers; also unusual snowstorms.

energy and money savings from 1910 to 1916. It will be noted that the energy consumption has not remained at the original low level. This is due partly to war conditions, such as presence of a large proportion of new men, to the darkening of the streets for air-raid protection and to omnibus competition which adds to street congestion. With the return of normal conditions, the savings should reach their former high level. The saving in brakeshoe wear is 26 per cent.

As a guide to the motormen and their instructors, Mr. Goodyer prepared a booklet which tells exactly how to manipulate the controller over each part of the different routes according to traffic conditions. In filling out the meter card in the car, succeeding motormen are expected to check one another's readings at once to avoid disputes. The last reading of the day is not



entered by the motorman but by the depot inspector who does so under the eye of the motorman. The meter readings are afterward segregated according to routes and types of cars as shown. The averages for each day of every week are also recorded.

In addition to the testimony from individual city systems the British Electric Traction Company, which controls some thirty tramway systems, considers the use of energy-saving devices as a matter of course. According to an official of that company the most generally used instrument on that property is the ampere-hour meter, then follows the watt-hour meter and, to a very small extent, the current-time clock brought from Germany about ten years ago. This same official added that it had been extremely difficult to get full value out of any checking device during the war because of the tremendous shifting of personnel and the loss of many experienced motormen. Of course, with the return of peace the situation will be greatly improved.

CAR METER TESTS AT GLASGOW

Although the Glasgow Corporation Tramways generate their own power at a comfortably low rate, the management has determined to look into the matter of meters on the cars. To this end a series of tests

average and total energy consumption for given weeks and sample records on the test cars. These particular results are selected to show the uniformity of results secured by specially-skilled operators on a given car, the uniformity of results secured by unselected operators, and the range in the energy consumption on the test cars.

TABLE III—ENERGY CONSUMPTION, INCLUDING LIGHTING GLASGOW CORPORATION TRAMWAYS

Week Ending	Car-Miles	Traction Kilowatt-Hours	Kilowatt-Hours Per Car-Mile
Oct. 12.....	483,034	690,593	1.430
Oct. 19.....	478,498	684,676	1.430
Oct. 26.....	508,559	706,400	1.389
Nov. 2.....	475,184	671,090	1.412
Nov. 9.....	465,521	649,853	1.396
Nov. 16.....	452,202	638,574	1.412
Nov. 23.....	456,585	687,851	1.506
Nov. 30.....	452,741	662,362	1.463

TABLE IV—ENERGY CONSUMPTION SHOWN WITH THE SAME TYPES OF CARS BY DIFFERENT OPERATORS ON THE SHAWLANDS-MARYHILL LINE, GLASGOW CORPORATION TRAMWAYS

Car No. 265—Driven by Selected Operators				
Date	Kilowatt-Hours	Miles	Kilowatt-Hours per Car-Mile	Operators
Oct. 14	108.8	121	0.89	Livingston and McLean
Oct. 15	113.6	121	0.93	
Oct. 16	113.8	121	0.94	
Oct. 17	108.6	121	0.89	
Oct. 18	108.2	121	0.89	
Oct. 19	109.7	121	0.906	
Car No. 266—Operators Not Selected				
Oct. 14	151.1	121	1.24	Mulhearn, George
Oct. 15	145.4	121	1.201	S. O'Hara, W. J. Stewart
Oct. 16	148.4	121	1.22	R. Ross, D. McLeod
Oct. 17	146.1	121	1.207	J. Friel, R. Christie
Oct. 18	145.9	121	1.205	M. Stewart, D. McCann
Oct. 19	153.5	122	1.20	J. Muir, H. Borland

At the request of the editors of this paper the firm of Ferranti, Ltd., has supplied a list of the thirty-one municipal and eleven corporation tramways in Great Britain which use meters of its make.<sup>1</sup> Chamberlain & Hookham, Ltd., have also furnished a list of ninety-one cities, including several outside the British Isles, in which the C-H meters are used.<sup>2</sup>

COASTING STILL POSSIBLE ON TUBE LINES DESPITE ASTOUNDING INCREASES IN TRAFFIC

One of the best testimonials to the value of a checking device on cars is afforded by the experience of the London Underground Electric Railways with the Rico coasting recorder. These recorders are installed on the three "tube" lines, to wit, the Bakerloo, Piccadilly and Hampstead lines, and also on the Central London under-

<sup>1</sup>The Ferranti list is sub-divided thus:  
*Municipal Corporations*—Manchester, Maidstone, Luton, Llandudno, Leicester, Yarmouth, Swansea, Stockport, Southport, Southend, St. Helens, Plymouth, Peterborough, Paisley, Nottingham, Norwich, Newcastle, Nelson, Blackpool, Leith, Oldham, Devonport, Barrow, Barnsley, Ashton-u-Lyne, Ayr, Dumferline, Dumbarton, Dartford, Burton-on-Trent, Exeter.  
*Private Corporations*.—Merthyr Tydfil Electric Traction & Lighting Company, Ltd.; Llanelly & District Lighting & Traction Company, Ltd.; Greenock & Port Glasgow Tramways; South Lancashire Electric Tramways; Yorkshire (Woolen District) Electric Tramways, Ltd.; Oldham, Ashton & Hyde Electric Tramways; South Metropolitan Electric Light & Tramways Company; Blackpool, St. Annes & Lytham Tramways; Potteries Electric Traction Company, Ltd.; Mexborough & Swinton Electric Tramways; Colne & Trawden Light Railway.

<sup>2</sup>The Chamberlain and Hookham list is as follows: Huddersfield, Bournemouth, Dover, Hastings, Lowestoft, Waltham, Walthamstow, Wemyss, Wolverhampton, Rochdale, Brighton, Birmingham Corporation, Birmingham Midland Tramways, Gloucester, Coventry, Derby, Swindon, Warrington, Wigan, Colchester, Leyton, South Shields, Aberdeen, Croydon, Burton, Bradford, Dublin, Belfast, Jarrow, Yorkshire E. T. Co., Sunderland, Reading, Dundee, Dundee and Broughty, Kirkcaldy, Cork, Greenock, Newcastle, Hull, York, Warrington, Preston, Lancaster, Blackpool, Ayr, Leith, Rotherham, Sheffield, Darwen, Salford, Luton, Rawtenstall, Carn Brea, Ilkeston, Cheltenham, Victoria (Australia), West Ham, Newport, Bombay, Dunfermline, Edinburgh, Torquay, Ferry, La Plata, Halifax, Musselburgh, Keighley, Cardiff, Pontypridd, Paisley, Lanarkshire, Liverpool, Buenos Ayres, Doncaster, Gateshead, Tynemouth, Gravesend, Glasgow, London County Council, Ilford, Nottingham, Kilmarnock, Perth, Athens, City of Santos, Manchester, Accrington.

**Facsimile of Weekly Consumption Sheet.**

CROYDON CORPORATION TRAMWAYS.

Weekly Average Current Consumption.

Route..... Week ending.....19.....

Motorman.	Type of Car.	Saturday U.P. C.M.	Sunday U.P. C.M.	Monday U.P. C.M.	Tuesday U.P. C.M.	Wednesday U.P. C.M.	Thursday U.P. C.M.	Friday U.P. C.M.	Average for Week	Above Average

Extracted by \_\_\_\_\_

T. B. GOODYER, Tramways Manager.

CONSUMPTION SHEET USED BY CROYDON CORPORATION TRAMWAYS

was begun on Oct. 14, 1918. Three cars, all of double-deck type and similar in other respects were fitted with C-H ampere-hour meters and run in like service over the Maryhill line, which is a purely city route. These cars were put in charge of motormen and motresses selected for known ability; and then in charge of operators taken at random. In all cases, no special instruction was given but the operators were advised of the purpose of the meters. Hence the results may be ascribed to the moral influence of a checking device and to the desire of the car operators to do all they could, as individuals, to save coal.

The results of these tests may be considered extremely gratifying, for many of the operators showed results below that of the average kilowatt-hours per car-mile of the entire system after making due allowance for lighting, which is not considered in the tests. The best motorman achieved the figure of 0.89 kw-hr. per car-mile, which is amazing in view of the fact that these cars weigh 24,260 lb. empty and may carry sixty-two seated and six standing passengers exclusive of the crew. The Shawlands-Maryhill line on which the runs were conducted is 6.06 miles long, with headways of two and three minutes and a schedule speed of 7.45 m.p.h. The accompanying Tables III and IV show the



TABLE V—COASTING RECORDS FOR FOUR WEEKS ENDING JAN. 29  
PICCADILLY LINE, LONDON ELECTRIC RAILWAY

Key Number	Average Coasting, Per Cent.	Positions for Months Ending						
		Jan. 29 32.3%	Jan. 1 31.4%	Dec. 4 33.8%	Nov. 6 35.0%	Oct. 9 36.2%	Sept. 14 35.8%	
P.28	46.8	1	54	54	32	4	7	
P.58	40.2	2	5	13	20	19	13	
P.30	39.4	3	34	19	24	12	19	
P.39	39.0	4	4	23	42	40	32	
P.64	39.0	5	7	3	2	1	1	
P.40	38.6	6	9	10	6	3	9	
P.70	32.3	Average for	35	24	39	34	18	31
P.32	32.3	Piccadilly	36	39	45	35	32	41
P.51	26.0		64	47	56	53	37	50
P.42	25.9		65	53	53	46	26	25
P.23	24.0		66	65	67	55	54	25
P.76	23.7		67	68	71	68	69	69
P.20	....		..	57	66	64	68	60
P.50	....		..	..	..	..	..	..

ground line. All of these lines have had to take care during the war period of enormous increases in traffic without any increase in the number of cars available and with no decrease in schedule speeds. Furthermore, a large proportion of the motormen have been green hands and many of the conductors or guards have been women in railway service for the first time. Even with such handicaps, the use of the coasting recorders has gone on uninterruptedly and appreciable savings are still being made although the opportunities to do so were less.

The interest of the men is largely maintained by the posting of the records and the granting of a bonus. Instead of posting the records by names, however, key letters and numbers are used. For example, B-1 for a Bakerloo man, P-3 for Piccadilly and so on. This is believed to take the sting of unnecessary humiliation out of the postings so far as the management is concerned, while it does not injure the spirit of rivalry since each man on a given line knows very well who has a certain number.

On the three "tube" lines the minimum coasting percentage set as an efficiency indicator is 24.5 per cent. The average early in 1919 was 30.5 per cent, the men on these lines ranging as follows: Bakerloo from 43.3 to 28.8, Piccadilly from 39 to 24 and Hampstead from 45 to 24.9. The profile of the Central London Railway is so unfavorable, including up-grades at stations, that the coasting ranges only between 21.7 and 15.7 per cent.

The practice of giving bonuses to motormen upon the basis of their skill as individuals was in vogue only a very short time because it was unsatisfactory to the men. The men are rewarded equally according to the general average percentage of the coasting on all the lines. For every 1 per cent coasting over the base of 24.5 per cent, each man on the line receives 1d. (2 cents) a week calculated to the nearest  $\frac{1}{2}$ d. Hence the present bonus for all of the men is 6 to  $6\frac{1}{2}$ d. (12 to 13 cents) weekly.<sup>1</sup>

The average energy consumption on the three tube lines is 2.3 kw.-hr. per car-mile based upon the use of fifty-seat cars averaging 22 English tons (2240 lb.) each and operated at the following schedule speeds: Bakerloo, 16.5 m.p.h., Piccadilly, 17.78 m.p.h. (local) and 19 m.p.h. (express). The Central London Railway averages 1.6 kw.-hr. per car-mile at a schedule speed of 15.45 m.p.h. with 17-ton (average weight) cars run in trains of two motors and three or four trailers, and one motor and two trailers.

Sample data for the Piccadilly line are given in Table V. These show the ratings of a number of men for four weeks ended Jan. 29, with their positions in the lists for several preceding four-week periods.

<sup>1</sup>In translating from English to American money the pound sterling has been assumed to be worth \$4.80.

## What Is the Proper Length for Trolley Feeder Taps?

BY C. F. LLOYD

Manager Substation Section Power Department Westinghouse Electric & Manufacturing Company

A ROTARY converter or direct-current generator tends to "buck" or flash over if short-circuited. Short-circuits on the line produce much less tendency to cause the machines in the substation or power station to flash over if the taps are made some distance from the source of power. Possibly 75 per cent and perhaps even 90 per cent of the flashing nuisance is traceable to the placing of the feeder taps too close to the station.

The question which naturally arises is as to the fixing of the tap distance from the machine. Unfortunately no general rule has been advanced on this point. So many variables enter into the solution of the problem that it will prove best to solve each case by removing the "close-in" taps until the resistance of the circuit becomes great enough to cushion a short-circuit and protect the machines.

The principal variables which enter into the determination of tap distance are as follows:

1. *Power capacity behind the rotary converter.* Obviously, for a given size of converter, the greater the capacity at the source of generation the greater will be the damage to the converter in case of trouble.

2. *Capacity of converting apparatus.* The larger the converting apparatus the less sensitive it is to direct-current line troubles.

3. *Voltage of the system.* The lower the voltage the nearer the taps can be placed to the machine. In general on a given system the tap distances for 1200-volt service should be at least twice those for 600-volt service.

4. *Size of feeders.* The larger the feeders the farther the taps should be from the machine.

5. *Disposition of feeders.* When possible feeders should be so arranged that each will carry a reasonable proportion of the station output. If one feeder carries a disproportionately great amount of power any trouble on it will react on the entire substation.

6. *Size of rails.* The heavier the rails the greater should be the tap distances.

7. *Bonding.* Broken bonds and poor ground connections have been known to produce flash-overs, although not frequently. Obviously, the bonding has a direct bearing on proper tap distances.

8. *Size of cars.* With a given substation unit, the heavier the car equipment and the larger the motor rating, the greater will be the drag on the substation equipment and the more destructive the effect of motor troubles. The rating of the car equipment has, therefore, a bearing on the tap distance, especially when the substation units are relatively small.

From the foregoing it is evident that to evolve a formula to cover such a diversity of conditions would prove to be a problem, and the result, until proved, could not be accepted as much more reliable than a guess. In general, experience has shown that on 600-volt systems, the first tap should be not nearer the machine than 3500 ft. and on 1200-volt systems, 5000 ft. The line losses due to the tap distances are of little consequence when compared to the loss caused by flash-overs, including the time and expense involved in cleaning up the damaged apparatus.



# Amalgamated Meets at Chicago

**In His Presidential Address, Delivered Sept. 9, Mr. Mahon Discussed Wages, Hours of Labor, Agreements, One-Man Cars and Other Live Topics of the Day—Other Business Dispatched During First Three Sessions**

**T**HE Amalgamated Association of Street & Electric Railway Employees of America opened its sixteenth convention at 10 a.m., Sept. 8. The meetings were held at the Ashland Boulevard auditorium of local division No. 241 of the Chicago Surface Lines. At the open meeting on Monday forenoon the convention was addressed among others by the president of the Illinois Federation of Labor, by a representative for the president of the Chicago Federation of Labor, and by the prosecuting attorney of the city of Chicago, representing Mayor Thompson. Each of these men welcomed the Amalgamated Association to Chicago.

The prosecuting attorney in his welcome classed the electric railway industry as a necessity of life. He said: "How far could Chicago, or any other city, progress without the street railway?" Further he said that the great enemy of the United States today is not any foreign country, but the present unrest and tendency toward bolshevism within our own confines. The only solution, he said, is for the employer and employees to get together in brotherly love and fairness.

International President W. D. Mahon, of the Amalgamated Association, in his opening address said that the Amalgamated Association is now welcomed by governors and their representatives and mayors and their representatives. This was not always so, he said. Years ago the association just came and planted itself down either for a convention or organization. This, he said, demonstrates the fact that if the laborer wishes recognition and welcome, he must demand it and not wait for it to be extended to him. Mr. Mahon said that the conditions of this reconstruction period will not approximate those of the days following the civil war. Labor unions were at that time abandoned and neglected by those who went into service, and the worker returning from the war had to fight his own battles as an individual. Today, the soldier returns to his work, and his association will fight his battles for him. The Amalgamated Association sent more than 12,000 members into the service, and more than 6000 of them have returned and have received higher wages. The worker will not face the dark period following the civil war, and if he faces any dark period, he will not face it alone.

The Amalgamated Association, President Mahon said, comes to its sixteenth convention in the best condition in the history of the association.

Mr. Mahon announced that Samuel Gompers, president of the American Federation of Labor, would address the convention of the Amalgamated Association on Saturday morning, Sept. 13.

Practically all of the afternoon of Monday, Sept. 8, was devoted to the examination of the credentials of the delegates assembled and the presentation to them of badges. These badges will not only give them admittance to the floor in all meetings but will also permit them to ride free of charge at any time during

the convention week on any surface or elevated car in Chicago. Visitors accompanying delegates were also given a badge which will admit them to the gallery of the auditorium and which will also serve as free transportation for them.

On Monday evening before adjournment programs for the remainder of the week were handed out. Accompanying the programs were a free ticket to the Majestic Theatre for Monday evening, a free ticket to a 50-mile automobile sight-seeing ride through the connecting boulevards and parks of Chicago, including a free luncheon at Riverview Park, and a free ticket to the banquet to be held on Thursday evening at the Morrison Hotel.

The committees to report later during the sessions were appointed on Monday afternoon.

## ADDRESS OF PRESIDENT MAHON

Practically all of Tuesday forenoon, Sept. 9, was devoted to the presidential address of International President W. D. Mahon. The main subjects covered in this address were wages, hours, agreements, arbitration, mediation, strikes and lockouts, appeals and one-man cars.

*Wages*—With reference to wages, President Mahon outlined the conditions which have developed since the last convention and described what has been accomplished. As a result of the high cost of living, due to war conditions, the International Association appealed to the War Labor Board to consider the wages of electric railway employees. The decision of the board to hear these cases created an enormous amount of work for the International Association, but delays in the cases Mr. Mahon said were due to the railway company's asking for more time or to the municipalities or the War Labor Board itself. After study, the Board granted very substantial increases, said Mr. Mahon. Canada, however, did not secure such substantial and satisfactory decisions as were secured in the United States. Unfortunately, the cost of living since the spring of 1918, when the Board made its decision continued to increase steadily, and it was soon found that the wages established at that time were not sufficient. Accordingly, many local divisions had to go before the Board a second time and insist on further increases to correspond with the increased cost of living.

The majority of the railway companies agreed that the wages paid to the employees were not sufficient but took the position that due to the low fares they could not raise wages. This placed the men in a serious position but they were compelled to insist on higher wages, pointing out the reasons for this necessity. In most cases the association was able to convince the War Labor Board of the justice of its demands. At this point Mr. Mahon stated that "no man can ever show where the Amalgamated Association ever entered into an illegal or unjust act."



*Hours*—During the war no attempt was made to shorten the hours of electric railway employees. When the war was over, however, it became necessary to take up the question of shorter hours. The spirit of some of the members is to oppose the eight-hour day because it prevents them from making as much money as formerly. These members, however, said President Mahon, must come to the conclusion that they as a small minority must give up the custom of working themselves to death to the detriment not only of themselves but of the large majority. Other industries have had the eight-hour day for years and the time has now come for the street railway men to demand the same. The principle that should be adopted is the greatest good for the largest number.

*Agreements*—In the matter of agreements, President Mahon said that the policy of the association to secure written contracts has been followed with satisfaction as in the past. At the present time the total number of written contracts is approximately 400. The written contract he said is the best contribution to the success of the organization.

*Arbitration*—Since the last convention there has been more arbitration than ever before in the history of the Amalgamated Association. Every case before the War Labor Board has been an arbitration case. There were a total of 134 cases submitted to the War Labor Board affecting employees of 148 electric railway companies. In forty-two cases the War Labor Board decided that it had no jurisdiction. This was chiefly due to the fact that the War Labor Board was originally created for the purpose of dealing with industries affecting the manufacture of munitions and other war supplies. There have been sixty cases of local arbitration in addition to those handled by the War Labor Board.

*Strikes and Lockouts*—Mr. Mahon came out very forcefully on the subject of strikes and lockouts. The spirit on the part of some of the membership he said has been to disregard entirely the laws of the Amalgamated Association. "I wish to remind you," said President Mahon, "that the integrity of the organization is sacred and if contracts are disregarded and the laws of the association are cast aside, we cannot ask anyone to have confidence in the organization." It was recommended that the local divisions carefully study the laws and if a division acts in violation of the laws of the national association, that division shall be deprived of its membership. "This may seem to be a drastic step," said President Mahon, "but will cause many divisions to think twice before they finally determine to go on strike."

*Appeals*—Thirty-five appeals from local divisions have been sustained by the International Association and fourteen refused. President Mahon recommends that more care be taken in trying to settle these cases without bringing them to the attention of the International Association.

*Members in War*—During the war the Amalgamated Association made such provision that the membership fees of those who entered the service were considered paid while the members remained in service. When these men returned they were placed back in good standing. The number reporting as answering military service was 11,157 and over 6000 of these have so far returned. In practically all cases these men have

been given their seniority standing by the railway company.

*Laws*—The continued growth of the Amalgamated Association makes it necessary that there should be more international officers. The present staff of vice-presidents consists of ten. President Mahon recommended that this number be increased to fourteen.

*Salary of Officers*—According to President Mahon the international officers of the Amalgamated Association have been underpaid as the result of the high cost of living. It was recommended that the laws be changed to cover these increased expenses. There has been some criticism of salaries of international officers, but upon careful investigation it is apparent that the officers of the Amalgamated Association are about the lowest paid of any officers of international labor organizations.

*Initiation*—The initiation fee to the Amalgamated Association has in the past been \$1, 25 cents of which goes to the International Association and the remainder to the local division. President Mahon recommends that the initiation fee be increased to \$2, \$1 of which shall go to the International Association.

*Laws Relating to Officers of Local Division*—It has been called to the attention of the International officers that some division officers whose duty is to collect dues, etc., for the Amalgamated Association, have been taking advantage of this position to act as collectors also for other societies, associations and company benefit organizations. President Mahon recommends that this practice shall not be continued and that any man who represents the Amalgamated Association cannot also represent any other benefit association.

*One-Man Cars*—The instructions of the previous convention were that definite action should be taken against the one-man car. The international officers tried to carry out these instructions but found that the question was a greater one than at first had been supposed. Careful investigation was made and as a result of this the best policy appeared to be to insist on an increase in wages for the operator of the one-man car and not to stand out against the use of this equipment. It is now reported that there are 2004 one-man cars in operation on eighty-nine different properties. President Mahon stated that in his opinion the one-man car had come to stay and that the association could not hope to overcome it. The best policy he said is to recognize the one-man car as a necessity to the electric railway industry and to demand higher wages for operators of this equipment.

The president's address was referred to the committee on president's address for a later report.

On Tuesday afternoon delegates and guests enjoyed an automobile tour of the boulevard and park system of Chicago. A 50-mile ride through the connecting boulevards and parks and to the Municipal Pier ended at Riverview Park, where luncheon was served. Concession privileges were furnished delegates and guests to participate in the Mardi Gras carnival at Riverview Park and special cars conveyed the party to the loop late in the evening.

On Wednesday the entire day was devoted to a report of the executive committee and reports on actions taken on appeals to the International Association from local divisions.



# Economic Future of Transportation Utilities

**"Are We Entering a New Epoch of Economic Relationship as Between Public, Labor, Investor and Ultimate Consumer?"—Symposium Presented at Western Society of Engineers' Meeting**

**A**T ITS OPENING meeting on Monday, Sept. 8, following the summer recess, the Western Society of Engineers, Chicago, took the above as its subject, the program for the evening taking the form of a symposium of four papers on the following sub-topics: "Introduction and Historical," by James R. Bibbins, engineer, the Arnold Company, Chicago; "Valuation and Accruing Depreciation," by P. J. Kealy; "The Actuarial Problem," by W. J. Hagenah, of Hagenah & Erickson, Chicago; and "Electric Railway Policy," by George Weston. Mr. Kealy was unable to be present but forwarded his paper and it was read by E. S. Nethercut, secretary of the society. W. J. Hagenah was also unable to be present and the paper on the subject assigned to him was prepared and presented by John Jirgal, accountant of the same firm. Abstracts of the papers by Messrs. Kealy and Weston appear below. The papers prepared by Messrs. Bibbins and Jirgal will appear in abstract in a later issue.

At the close of his paper Mr. Weston read at length from the report of the valuation committee of the American Electric Railway Association. This report appeared in quite full abstract in the August 2, 1919, issue of the *ELECTRIC RAILWAY JOURNAL*.

## Electric Railway Policy

BY GEORGE WESTON

Consulting Engineer, Philadelphia (Pa.) Rapid Transit Company

**W**ITH respect to the present general financial situation of electric railway properties in the United States and the attitude that they can take as to various means for relief, the first and most important matter is the question of cordial and satisfactory working relations between employer and employee—usually referred to as industrial democracy or co-operation. This brings up the question of whether industrial democracy can supplant collective bargaining.

First, collective bargaining does not conflict in any way with the successful operation of a proper co-operative plan. And there can be no question but that the day has arrived when labor, through some co-operative plan wherein the rights of the general public will be fully guarded and protected, must be raised to a position of more direct participation in the management of operating conditions that affect their personal welfare and enabling them to participate more fully in the equitable distribution of the earnings which they help to produce.

When labor is made a working, participating partner in the business, it must assume its portion of the burdens, responsibilities and obligations, and positive provisions should be made in any plan for serious consideration that will prevent strikes on public utilities and insure to the general public continuity of service at all times. The abolition of the strike is one of the most important problem in the public utility situation today. Strikes like wars should be abolished. Why send the

flower of our young manhood to Europe to offer up their lives and spend billions of money to help democratize the world and establish peaceful arbitration between nations as a substitute for wars, and tolerate the existence of a system of warfare between different elements of our own social organization in the way of strikes. Wars were necessary to civilize the world and similarly, probably, strikes were necessary to bring Capital to realize that Labor is its chief ally.

The "plan for collective bargaining and co-operative welfare" of the Philadelphia Rapid Transit Company offers an excellent example of real co-operation between the management and the employees.

[The latest plan was described in two articles in the *ELECTRIC RAILWAY JOURNAL*, one in the issue of Sept. 14, 1918 and the other in the issue of Dec. 28, 1918. As typical evidence of the feeling existing between management and employees in Philadelphia, the author quoted part of a clipping from a Philadelphia paper telling about a "Welfare" picnic and a dinner given by Mr. Mitten to the co-operative plan committee which was attended by the chairmen of the Federal Electric Railways Commission and the Pennsylvania Public Utilities Commission. An account of these same events appears on page 537.—EDS.]

The Stotesbury-Mitten management adopted the co-operative plan in August, 1911, and it was accepted by a vote of the men in November of the same year. In a statement based on eight years' experience with the plan, Mr. Mitten in February, 1919, told of the organization of the fifty-two sub-companies into a single unit to form the Philadelphia Rapid Transit Company in 1902 and how in 1910 the company found itself with credit exhausted and with earnings insufficient longer to pay its fixed charges and operating costs. The car riders and business interests were suffering from the strikes of that year and preceding years and labor was threatening further disturbances. The service was bad and the cars antiquated. Then at the urgent request of the city government and the stockholders, the company undertook as a public duty, the rehabilitation of the system, promising to meet the needs of the car riders, increase the wages of the men and then pay to the stockholders such return as could be made possible by good management and co-operative efficiency.

The results obtained are evidence of what can be accomplished by co-operation between the men and the management. Every promise of the management is here shown to have been faithfully fulfilled. The number of passengers carried increased during the eight years 70 per cent. The average fare was lowered from 4.13 cents per passenger in 1910 to 3.91 cents in 1917 by granting additional free transfers. Wages increased from 23 cents an hour in 1910 to 48 cents in 1918. Dividends paid include one of 2 per cent in 1916 and 5 per cent in 1917 and 1918.

It will be observed that the co-operative plan has been in process of development in Philadelphia for a



period of nine years, and it must be apparent that such radical reforms cannot be instituted overnight. The lesson to be learned by the Philadelphia example is that every employee should give a full day's work for a fair day's pay; that maximum wages mean maximum output; that economy of time, effort and energy is the price of commercial success; that we must not expect to get something for nothing.

Capital and labor should work together. United they will stand, divided they must fall. The employee who through a reasonable probation period has proven himself worthy to become a permanent employee, should be taken into the fold and made to feel that he is a real part of the working organization; that he must assume his portion of the burdens and obligations, and if he is to participate in the successes and profits, he must also stand his portion of the failures and losses likewise whenever they occur.

## Valuation and Accruing Depreciation

BY PHILIP J. KEALY

President Kansas (Mo.) City Railways

THE street railway industry of the United States has passed through a most depressing period, but present indications are that the worst is over. One of the most hopeful signs to-day is the fact that the problem has ceased to be one only of local significance and has become national. Commissions have speeded up their action. The public has become aware of the seriousness of local transportation needs, which in some instances threaten the very continuation of service.

The appointment of the Federal Electric Railways Commission to investigate the needs of urban transportation and to make recommendations has served to crystalize the entire matter into national form. Through the activities of the American Electric Railway Association and the Committee of One Hundred in Washington, the entire question has been presented to this commission from a nation-wide standpoint. The national Chamber of Commerce has also taken up the question. The public mind has been educated to the needs of our urban transportation companies until in every community the necessity for some solution is now recognized.

All of these things working together open the way for placing the entire industry in every community upon a stable basis that justifies the belief that its future will be worked out in a manner acceptable to the investors and to the public.

In my mind the ultimate solution will be private operation and ownership with municipal supervision of service based upon the cost-of-service principle, which necessarily will include a fair return to capital actually and honestly invested in the public service. The cost-of-service plan primarily turns upon two fundamentals: First, that the car rider shall pay only for transportation; second, that inasmuch as one element of the cost to produce is a fixed return upon capital value, that such capital value be determined and agreed upon between the company and the municipality.

To some extent, from the standpoint of valuation, the doors of the past have been closed, and the entire transportation problem is in a fair way to be put upon a present and a future basis. The valuation cycle has progressed far enough so we can be at least hopeful that the standards in many cases being adopted, and which include the points developed in the recent report

of the Valuation Committee of the American Electric Railway Association, will govern the majority of future valuation proceedings. Although the whole question of valuation is complex, its basis of common honesty and fair dealing is becoming universally recognized. We have traveled a long way from the principles established in the beginning by the Wisconsin Commission, where valuations for rate making purposes were made on the depreciated physical value plus some additional allowance for a going concern. The trend of rate making today is away from the idea of basing rates on depreciated value. It is now recognized that it is a physical impossibility to keep any property maintained to a condition where no depreciation exists; that no property can possibly be maintained at more than 80 to 90 per cent of its cost new value, and that when maintained to that condition it will, as far as the public is concerned, be giving 100 per cent service. In basing rates on the depreciated value of a property the investor is not only penalized, in that at least 20 per cent of the investment which he never had an opportunity to recoup is being confiscated, but the public also suffers. From the latter viewpoint, if, in determining fair value, accrued depreciation is deducted, in the future the rate of return must be sufficient to include an allowance for future depreciation accruals, yet such accruals can never be used for public benefit, since it is impossible to keep the property maintained at more than 80 to 90 per cent physically good. Therefore it follows that it is more expensive, and increases the cost of service, for the public to pay the principal by paying for accrued depreciation, than to pay interest on the cost new value without deducting depreciation. Furthermore, it is now recognized that depreciation charges have nothing to do with capital account but are chargeable directly to operation.

The Wisconsin Commission, which first originated the principle of basing rates on depreciated value, has within the past year abandoned this theory. The Buffalo Arbitration fixed values entirely on the cost to reproduction new. The Missouri Commission has similarly expressed itself and in a recent case stated that henceforth all valuations in Missouri for the purpose of rate making would be on the basis of cost to reproduce new. This position is economically and morally sound, and I believe is one which will be made the basis for all future valuations of traction companies for rate making purposes.

From every present indication the future of traction companies lies along the way of private operation based on the cost of service with sufficient public supervision to insure proper costs and adequate service. The car rider should not be made to pay for anything but transportation. This means traction companies shall be relieved of all indirect taxes, such as paving charges, sprinkling, snow removal, and other taxes of like nature. It implies a fair agreed valuation upon which the car rider will pay a reasonable return. It further implies public supervision and a reward to management for efficiency.

There can be no proper argument advanced why transportation should be furnished at less than it cost to produce, and the deficit made up by taxation. If this is reasonable, then it is reasonable to go a step farther and say that transportation should be assumed by the municipality and furnished free and all expenses borne by taxation.

Whether or not a satisfactory solution can ever be



made for labor is a question that will always be doubtful. If the future is to be judged by the experiences of the past 24 months there seems to be no way of satisfying labor. The demands of the unions have already upset settlement after settlement that seemed to promise results. There is one element, however, in the situation that may curb further unreasonable demands, and that is public opinion. In the past, the public, in paying a fixed fare, was very little concerned with the troubles between the traction companies and their employees as long as service standards were maintained. In general the public sided with labor for the simple reason that, paying a fixed fare and receiving good service, it was not directly affected. However, under the cost-of-service plan all this will be changed, and when the public once realizes that further wage increases and work-day changes are immediately reflected in the cost of service, public opinion will be interposed to offset unreasonable demands. It has frequently been said that many of the troubles of public service corporations can be traced to "the-public-be-damned" attitude of a decade ago, whether this is true or not, and it will be very interesting to see what will be the result of "the-public-be-damned" attitude of labor.

It may be that the zone system is the solution in some localities, although as yet it has not been given sufficient trial in the United States to draw definite conclusions. The great majority of our cities have grown upon the basis of one fare and it will be an extremely difficult matter to change the very fundamental upon which their growth was predicated, that is, the one fare system.

There is this much that can be said upon the future of our transportation systems: They are absolutely essential to the growth and development of our cities; there is nothing today or in the near future that can take their place; what is necessary to our present civilization will be continued and maintained. The entire

The public will be satisfied because it will have the assurance that it is paying for the service which it demands, a fair price based upon its actual cost, and that it controls more or less directly the character and extent of its service.

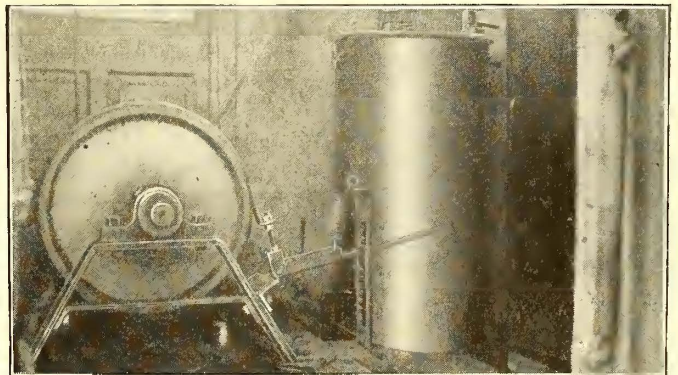
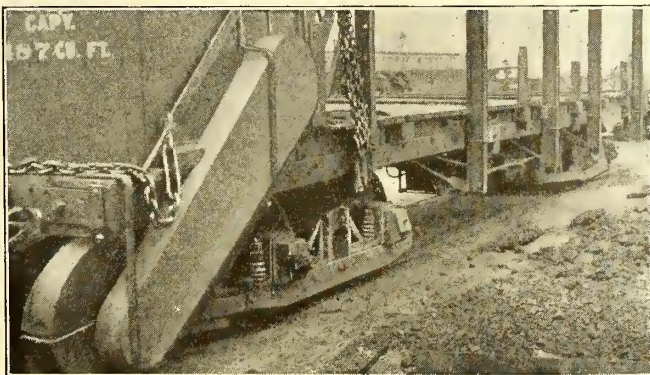
Labor will be made to realize that it is engaged in a public service and that public welfare must be considered. It will be paid a fair wage for a fair day's work and unreasonable demands will be met by the withdrawal of public support. The door of the past, I believe, will be closed not only upon obsolete valuation methods, but upon all of the old prejudices which have been the outgrowth of past mistakes and past policies. The urban transportation industry will be established on a business basis in which it will receive a fair price for a service absolutely essential to the well being and growth of our cities.

## Drag-Line Car for Handling Track Materials

St. Louis Company Uses Old Drum, K-11 Controller and 30-Hp. Railway Motor to Replace Ten Men

THE United Railways of St. Louis recently equipped a single-end flat car in such a manner that rails, switches, crossings, frogs and other materials can now be handled with a minimum of manual labor. The car is the standard 40-ft. single-end equipment used by the company for such purposes and has four GE 57 motors with K-6 control and Westinghouse automatic air brakes. As shown in the accompanying photographs, all such cars used in handling rails and special work have embedded in the floor as skids, 60-lb. 4-in. T-rail.

The equipment added to car No. 140 consists of a drag line operated from an 8-in. x 11-in. drum driven by an old Westinghouse 30-hp. railway motor. The motor



AT LEFT, HOUSING FOR CHAIN DRIVE AND METHOD OF BRACING UPRIGHTS ON DRAG-LINE CAR; AT RIGHT, LOCATION OF DRUM AND CONTROLLER IN CAB OF CAR

industry is today going through a settling process that will put it upon a more secure and stable foundation than ever before. Being removed from a local status to a national one, valuation and other standards will be more easily adopted. The public, to the extent that it will be given a more direct control of service and have the assurance that it is paying a fair price, will to that extent assume the responsibility for this service.

The investor will find a future that will assure him of a fair if small return upon the money he has actually invested to give transportation service to our cities.

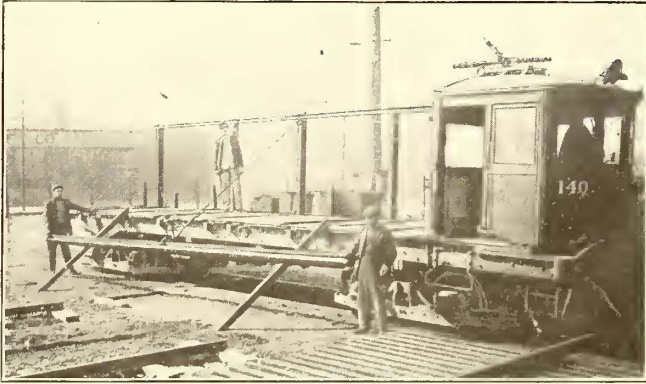
is suspended from the car floor on the left side just ahead of the forward truck. It is connected by sprocket and chain to a drum mounted in the cab. The left side of the cab is permanently closed and the chain drive is housed as shown in an accompanying illustration.

The control equipment for the drag-line motor is Westinghouse K-11 and is located directly above the motor in the forward left hand corner of the cab. The drum is equipped with a band foot brake for holding purposes. A ½-in. stranded wire cable is used for the drag line. The back of the cab is open but in stormy



or cold weather this may be closed by a roll canvas flap. A pulley for guiding and turning the cable is mounted in the back of the cab.

A rack has been built along the left-hand side of the car. There are four 6-in. I-beam uprights extending 6 ft. above the floor and braced at the bottom.



DRAG-LINE CAR USED AT ST. LOUIS FOR HANDLING TRACK MATERIALS

There is one lighter I-beam upright just back of the cab which is braced against the cab. The top longitudinal member is a 6-in. channel with a wood filler. The drag line passes from the pulley in the cab through a block which may be fastened at any one of the uprights.

The tongs used with the drag line were designed especially for the purpose, for they are always pulling at such an angle that the ordinary tongs would catch on the edge of the car floor. Sections of 4-in. T-rail are used as skids and these hook into angle braces on the side of the car. Two skids are used for rails, but for other pieces of special work three or four may be used.



SPECIAL TYPE OF TONGS USED WITH DRAG-LINE CAR

Formerly ten to fourteen men were used in a crew to handle rails and special work. With the equipment described above it is a very simple matter to handle practically anything of this nature with three men and a motorman. Thus a great saving in labor expense is realized and a negligible amount of heavy work is required of the men.

This equipment for handling track material was originally designed because of the impossibility of obtaining sufficient labor, illustrating again with added emphasis the old adage that "necessity is the mother of invention."

An unique exhibit of gear making was held in Cleveland, Ohio, some weeks ago under the auspices of an important local bank. Van Dorn & Dutton Company had in operation on the sidewalk at the corner of East 9th Street and Euclid Avenue an exhibit of electrical railway and other gears, with a gear-cutting machine in commercial operation. The gear-cutting operation demonstrated was particularly interesting because the gears produced were of the skew-bevel variety.

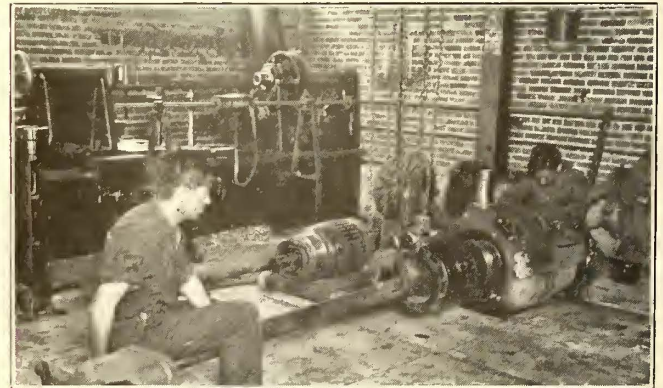
## Washington Hearings to Be Resumed on September 29

THE next hearing before the Federal Electric Railways Commission will be held on Sept. 29, according to a communication from Charlton Ogburn, executive secretary. The first two or three days will be taken up by a few witnesses including mayors, railway managers and public utility experts who were prevented from attending the August hearings. Following their testimony, the labor program will be put on and this will require three or four days for presentation. It is expected that the Amalgamated Association of Street and Electric Railway Employees' testimony will be conducted by W. Jett Lauck of Washington and James H. Vahey of Boston as counsel.

The questionnaire which the commission expected to send out to a great many persons closely allied to and interested in the street railway industry was completed about two weeks ago but has not as yet been approved by the chairman of the commission. It is expected that it may be made public some time next week.

## Convenient Method for Removing Armatures from Box-Frame Motors

THE accompanying illustration shows a method used by the Pennsylvania-New Jersey Railway for removing the armatures of box frame motors in the shop at Trenton, N. J. A piece of 4-in. pipe, approximately



REMOVING AN ARMATURE FROM A BOX-FRAME MOTOR WITH SIMPLE APPARATUS

6 ft. long, is placed over the end of the armature shaft after the end housing has been removed. A sheet steel hook, made of material  $\frac{3}{8}$  x 7 in., and with a surface for surrounding the axle about 9 in. long, is placed around the pipe close to the armature head and the hook from a crane or hoist is hooked into this. The hook of the crane is adjusted so as to keep the armature shaft the desired height and a man at the end of the 4-in. pipe steadies the armature and directs its removal or reinstallation. A man at the opposite end of the motor guides the shaft from the commutator end, so that there is no danger of interference. The Pennsylvania-New Jersey road has but few equipments of box-frame motors and the installation of an armature-removing press would not be warranted as it would be used too infrequently to pay the interest on the investment. This method has worked out very satisfactorily, in view of the comparative infrequency with which it is called into play.



## Letters to the Editors

### How to Secure Long Track Life

DALLAS, TEX., Sept. 8, 1919.

#### TO THE EDITORS:

In your issue of Aug. 16 you ask the editorial question: "Is there any standard track sub-construction?" and proceed to answer it in the editorial following. The real answer may be summed up in three words: "There is not!" What is really to the point would be the question: "Can there be, under the tyranny of 'Old Man Local Conditions'—such a thing as standard track sub-construction?" and the answer to this is the same but not so final and emphatic, because there is a corollary to it: "It is possible largely to standardize local conditions and make them a better fit to an approximate 'standard' of sub-structure."

As I have pointed out in articles on this subject for many years, street railway track construction has been a most inexact science. Engineering practice which has been "standard" for years in the construction of other structures has been totally ignored in track construction. This arises from several causes. The first of these is that few track engineers seem to realize that track is—or should be—a "structure," that is to say: "An assemblage of different and separate parts or materials so combined as to form, as nearly as is possible, an integral whole adapted to its specific purpose." It is well to keep this definition in mind for there is in it the whole theory and practice of proper and standard construction of track.

The "specific purpose" of railway track is, first of all, to form for its own wheel-traffic as perfect a rolling-way as is possible. This means that, for the wearing or "attrition" life of their heads, the two rails of every track must not only be, and remain, horizontally parallel and laterally level, except at curves of certain radii, but that the longitudinal wheel-contact surfaces of both rails must be, and remain, smooth, even and unbroken during that "wearing-life."

The second condition is that if the track or rails have to bear other wheel-traffic than its own, as it is compelled to do in most paved streets, it must be so constructed as to be able to do this with a minimum of wear, jar, injury or danger to that outside traffic and also in such manner that there will be a minimum of wear or injury to itself.

In paved streets the third condition is that the pavement and the track must be so component a portion of the whole street and must be so constructed with reference to each other where they touch or abut, that the track structure proper will not tend to loosen, separate or disintegrate that touching or abutting pavement or any other portion of it, so that the whole street may not have dangerous or objectionable defects caused by the installation and use of the track.

The fourth condition is entirely a local one, that of climate and subsoil, but even under such varying conditions as obtain in these respects in this country there can be a greater standardization if the basic principles of a "structure" are firmly held in mind and proper and correct engineering principles applied.

The fifth condition presupposes a certain amount of "prophetic instinct" on the part of the constructing engineers. Not only must the track be constructed for its purposes for the immediate present, but the effect of increased traffic on and across it must be a factor fully considered, as must be the probable effect on it which may be caused by enforced limitations in its initial construction. As a concrete example, if financial or other considerations compel the use of a very light rail, that rail must have more support (as with an increased number of ties) than would a much heavier rail and, also, much more attention must be paid to having the joints as nearly as possible an integral portion of the rail.

The sixth condition is one which affects not only the track and roadway department but also every other department of the company including the security holders. This is, that the effects of structural defects in the track are not limited to the track alone but are felt from the power-station to the claim department. The operation of the cars over "bad" track not only results in further injury to the track but, for every blow given by the car, the track returns a blow felt by the car maintenance department, the passengers, the pavement, the power-station and the dividends!

One of the main reasons why more attention is not given to properly standardized construction of street railway track is that we have all been used for so long to *unstandard* construction that we take it as a criterion of track-life. We take it as a matter of course that any track laid for a few years must necessarily have "repairs" to it long before the actual wearing surfaces are gone. We repair "bad joints" and "low quarters," we resurface and reline and regage track with good railheads between joints as if that were a necessary condition. What would we think of the engineering ability of anyone whose construction of cars, power-station, carhouse, pits, generator and prime-mover foundations, pole line or subways which had to be "repaired" after a few years more or less? Would we accept cars, machinery or apparatus which needed constant "tinkering" to make them function properly? And yet, in our track alone, we expect and virtually approve that condition which necessitates such constant tinkering.

It is always possible so to build track that its "life" shall, as a whole, be limited only by the wear of the portions subject to the attrition of the traffic imposed upon it. But to do this it must be "structurally constructed" and not built as a crazy-quilt. Every portion of the track from its subsoil to the top of the rail is as subject to natural laws as are the component parts of any other structure, and the province of engineering is to take advantage of these where they are helpful and to remedy or nullify those which are harmful. Every general condition necessary to perfect track construction has been known for years, every specific or local condition may be known if the matter is gone into technically and not guessed at empirically. There is no possible excuse for unstructural construction of track except lack of funds, arbitrary interference on the part of owners or the municipality or inability to obtain time or materials to construct it perfectly. Track which goes bad long before it is actually "worn out" always had in it some thing which was wrong and, back of that "thing," and responsible for its imperfection, was some person ignorant, careless or negligent or some structural principle violated.



Treat track as a structure subject to many stresses, strains and impacts—all of which may be ascertained beforehand—and it will be like the "Deacon's One-Hoss Shay" made famous by Oliver Wendell Holmes—it may wear out but it will not be liable to break down!

H. S. COOPER.

## Lo, the Poor Peanut Vendor Knows How to Sell!

NEW YORK CITY, Sept. 3, 1919.

TO THE EDITORS:

As almost every electric railway man is a good baseball "fan," he can vouch for the truth of what follows even if he has never thought of the matter from the same angle.

Go to a baseball game in almost any large city to which game the charge of admission varies from 50 cents to \$2.00, exclusive of the war tax. To the attendants at these games, therefore, a car fare more or less would not be a hardship. Watch the crowd going home after the game. Some get on cars, others on automobiles, but many of them walk. If we follow the walkers, we see streamlets drifting off into the side streets for a distance of 1 to 1½ miles or more, although the main current is along a highway with street-car service.

What effort, if any, do electric railways make to get the baseball fan on the cars? In some cases, a prepayment area helps a good bit, but it is the exception rather than the rule to find any representative of the electric railway on hand to guide the homegoers and to suggest the use of the trolley car. Cars and track there may be but not a transportation salesman!

What a contrast is offered to this "let-'em-come-or-stay-away" policy by the action of the humble peanut vendor. Does he depend upon either the ravishing aroma of freshly-roasted peanuts or upon the piercing steam whistle? Not a bit of it. He gets as close to the current of traffic as he can and does not stop offering his wares, sold at a car fare apiece, by the way, until the last "bug" has departed.

Now just what do railway men mean when they talk of "selling transportation"? Is it something elegant, refined and detached, or straight man-to-man selling such as we get from Tony or Demetrius? What dignity doth hedge the electric railway business that prevents us from selling our wares exactly as people in any other line from peanuts to diamonds sell theirs? Hadn't we better use such ways of persuading the baseball "fan" and others to buy street car rides in preference to spending the money in some other way? At least, let us try.

PERTINAX.

The Census Bureau reports that in 1917 the number of deaths resulting from street-car accidents was 2277, corresponding to a rate of three per 100,000 inhabitants. This is greater than for the preceding two years and the same as that for 1912, but is less than the rate for other recent years. It compares with deaths due to injuries by vehicles other than railroad cars, street cars, and automobiles of 2326 or 3.1 per 100,000. This rate has declined somewhat during the past ten years, although the casualties from automobiles have risen in number rapidly from year to year. The total number of deaths caused by accidents during 1917 was 53,544 as against 60,072 during the previous year.

## Association News

ATLANTIC CITY CONVENTION, OCT. 6 TO 10

### Standards to Be Labeled

THE exhibit committee is planning to introduce a feature at the Atlantic City exhibit, which is to have exhibitors mark apparatus shown in their exhibit where this apparatus conforms to the standards of the American Electric Railway Engineering Association. It is planned to have a uniform card printed for this purpose, which will read: "A.E.R.E.A. standard," and copies of this card may be obtained from Director of Exhibits Wells. The plan is approved by the committee on standards which believes that by this plan a better general knowledge of the extent of the equipment now standardized will be obtained.

### Mail Pay Questionnaire

ON SEPT. 2 a letter was sent out by Secretary E. B. Burritt, to all railway member companies carrying United States Mail, discussing the rates proposed at the Indianapolis hearing before the I. C. C. examiner for compartment car or express car service on interurban lines. With this was a proposed modification for closed pouch service on city and interurban passenger cars. A questionnaire accompanied the letter requesting opinions as to the rates proposed.

The sub-committee of the main committee on mail pay which is preparing the brief covering all the sectional conferences has the work well in hand and at the meeting of the whole committee soon to be held, will submit its report. This committee at this meeting also plans to make definite recommendations for submission to the I. C. C. for all classes of mail service performed by electric railways.

### Purchasing Agents to Meet

PRESIDENT PARDEE has appointed a committee to make arrangements for an afternoon session at the Atlantic City convention, particularly for purchasing agents and storekeepers. A program will soon be drafted and announced. The committee comprises E. E. Stigall, purchasing agent Kansas City Railways, chairman; William Whiteford, purchasing agent Twin City Rapid Transit Company, and P. F. McCall, general storekeeper Metropolitan West Side Elevated Railway.

### Committee Reports Ready

THE advance committee reports of the Engineering and Transportation & Traffic Associations, eleven in all, will be sent out from the association office within the next few days to all member companies and individual members allied with either of these associations.

Plans are under way to hold a gathering of publicity men at the Atlantic City convention. A committee to handle the matter will be appointed shortly.

H. H. Norris, ELECTRIC RAILWAY JOURNAL, has been appointed to fill the vacancy on the committee on convention daily caused by the resignation of J. J. Dempsey.



# News of the Electric Railways

FINANCIAL AND CORPORATE • TRAFFIC AND TRANSPORTATION

PERSONAL MENTION

## Thompson's Tall Talk

Mayor of Chicago Urges Municipal Ownership and Operation in Tart Message to Council

The much-advertised message of Mayor Thompson for a solution of the local transportation problem was delivered to the members of the City Council of Chicago, Ill., in special session on Sept. 9. In brief, it proposes municipal ownership and operation of the street railways with the management in the hands of a popularly elected commission of five men.

The Mayor also asked the Council to authorize him to appoint a commission to make plans for the "acquisition, extension, control and operation of the railways serving the public in the city of Chicago and surrounding territory." He asked to be allowed to spend \$250,000 in the investigation.

The Mayor's plan would also create, with the help of State legislation, a district to be known as "The Transportation District of Chicago," which would include territory outside the city limits, the exact boundaries to be defined in the creative legislation.

### RECOMMENDATIONS REFERRED TO COMMITTEE

The recommendations made by the Mayor were referred to the local transportation committee of the City Council, and unless there is a special session of that body there will be no hearing until sometime in November.

It had been hinted that Mayor Thompson would recommend drastic measures to revoke the franchises of the surface companies on the ground that they had violated the ordinance provisions for securing higher fares from the State Utilities Commission. The message dealt severely with "traction barons" and "multi-millionaire anarchy," and it proposed that "fictitious and inflated values" be eliminated so that the property could be bought or built at actual cost. The Mayor also insisted that Governor Lowden is in honor bound to call a special session of the Legislature for the passage of enabling laws.

Comment on the Mayor's message was to the effect that it offered nothing different from measures which had previously been rejected by voters in Chicago. The report of the Chicago Traction & Subway Commission, prepared at a cost of about \$250,000 in 1916, is said to offer as complete a survey of the traction situation as can be arranged, and yet the ordinance based on these recommendations failed of passage at a public referendum.

The question of municipal ownership in Chicago also has been rejected by the voters. It is conceded that the railway properties cannot be taken over except on a price acceptable to the owners, and there would be the same reluctance to surrendering the lines for public operation unless a satisfactory rate of return on the cost is assured.

## Ontario Hydro-Railway Problem

Following the recent voting at Guelph, Ont., when the citizens overwhelmingly gave their verdict against the city entering into an agreement with the Grand River Railway, Sir Adam Beck, chairman of the Ontario Hydro-Electric Commission, visited Guelph on invitation of the Mayor and the railways and manufacturers committee, and had a conference on Aug. 21.

The advice of Sir Adam was first asked as to the best method of dealing with the Guelph Municipal Electric Railway. He suggested two ways of handling the situation:

1. That the city put the line into shape by reconstructing the roadbed, putting the overhead wires in good condition and putting on small one-man cars with more frequent service; debentures to be issued to cover the cost of these improvements and the city still to continue to operate the road.

2. That the railway be leased to the Hydro Commission or sold outright to the commission with the idea of making it a part of the hydro-radial system.

As a result of the meeting it is expected that the Council will pass a resolution at the next meeting asking the Hydro Commission to make a thorough investigation of the civic line with a view to making improvements and submit a report to the city.

Sir Adam explained, in connection with the projected hydro-radial railway, which will give the city of Guelph connection with the north and south of Ontario, that until such time as the Council of Guelph passed the necessary resolution obligating the city for 10 per cent over and above the additional amount voted in 1916, nothing could be done, as this was blocking the whole hydro undertaking between Toronto and London. Mayor Carter said that he would not sign the resolution until the ratepayers had passed upon it, but Sir Adam said that so long as the Council passed the resolution he would be satisfied if the Mayor never signed it.

The chairman of the Hydro Commission also stated that surveying parties are now at work around Hespeler and that fresh estimates would be prepared for the roads in that district. It would be folly to parallel the present Grand Trunk lines if they can be taken over and electrified.

## Columbus Strike Settled

Three-Day Strike Ended With Agreement to Arbitrate Matters in Dispute

An end came to the strike of the platform employees of the Columbus Railway, Power & Light Company, Columbus, Ohio, at noon on Sept. 6, as a result of an agreement reached some hours previously to submit all questions to arbitration. No cars had been operated since the morning of Sept. 3.

### MAYOR TOOK FIRM STAND

It is believed that the decision which resulted in the settlement was hastened by a statement read by Mayor George Karb at a conference of company and union officials on the previous evening to the effect that he had ordered the company to have the road in operation by noon of Sept. 6 and that he had promised to give the company full police protection.

Crews of former employees assembled at the carhouses were ready to operate cars. When Mayor Karb learned that an agreement had been reached he extended the time to 3 o'clock p. m., on Sept. 6 in order that all the men might have time to report.

There was considerable opposition to the proposal to submit all questions, including the wage scale for 1920, to arbitration, but it was finally approved by the men.

The board of arbitration will have the following questions to consider:

1. Reinstatement of John Rayan, meter reader.
2. Discharge of members of Local 817 of the Amalgamated Association, who worked on trolley wires.
3. Increased wages.
4. Allowance of seven hours a day or the equivalent in pay for extra men.

The company has agreed to make up any back pay that still remains due in installments of 20 per cent per month.

### ARBITRATION PROVIDED FOR

One clause in the settlement is to the effect that the proposed agreement for a wage scale for 1920 be submitted to the board of arbitration for their decision, as well as other points which may come up. Another is that the company shall not employ non-union men on trolley repair work for a period of ten days and shall not employ non-union men thereafter without giving written notice to the local union.

The members of the board of arbitration are to be chosen in accordance with Section 2 of the present agreement. Both sides bind themselves to accept and observe the findings of the board on all questions submitted.



## Service-at-Cost for Minneapolis

### Ordinance There All Ready to Go Before Voters in December —Valuation Fixed at \$24,000,000

The Twin-City Rapid Transit Company may be operated under a service-at-cost grant in Minneapolis, Minn., after Jan. 1. A measure of this kind was passed by the Council of that city late on Sept. 4 by a vote of sixteen to ten. The Mayor is opposed to the grant in its present form, but the City Attorney, Charles D. Gould, in a written opinion has informed the city clerk that the ordinance is "immune" from veto. He says that the franchise should go to the company for its acceptance. Three months after such acceptance the measure must be voted upon by the electors. It is expected that the franchise election will be held on Dec. 16.

The so-called Pillsbury figure of \$24,000,000 was accepted as the value of the property for rate-making and purchase purposes. The Mayor contends that this figure is from \$4,000,000 to \$7,000,000 too high. It will be recalled that the so-called Pillsbury valuation was accepted last January by the committee on street railway matters of the Council. Mr. Pillsbury had been retained to check the valuation of City Engineer Cappelen. Mr. Cappelen reported the value of the railway as of Jan. 1, 1916, as \$25,914,309, Mr. Pillsbury as \$24,346,113 and the company as \$30,712,101.

The new franchise is for twenty-five years. Under it the company is guaranteed a return of 7 per cent on the valuation previously mentioned. In the preliminary discussion this guarantee was the subject of long consideration. B. J. Arnold for the company held that in the grant as originally drawn the 7 per cent return was cumulative, and that if at the end of five years the city bought the property he saw no way the city could avoid making up the deficit of the company. As amended the section of the grant covering this matter reads that "the city shall at the date of conveyance of the property to the city assume and pay all outstanding liability or liabilities of the company, except all unliquidated deficits in the return to the company as provided in Clause B. Section 9 hereof."

The point just mentioned is an interesting one. Many others also seem to demand attention, but it must not be forgot, however, that the grant still must go before the voters. Therefore, until they have acted upon the ordinance it would seem to be prudent not to attempt to do more than touch some of the outstanding features of the grant. Among these not already mentioned are the following:

Surrender of the present grant. Close supervision of service by the city through a street railway supervisor appointed by the Council. Submission of budget for ensuing year forty-five days prior to expiration of current year. Reasonable control over railway purchases by the Coun-

cil. Return to company to be reduced on failure to comply with orders of City Council. Creation of reserve fund for repairs, maintenance, renewals and depreciation. Right of purchase by the city at end of five or ten-year periods. Increase in capital value on approval by the Council. Arbitration of all disagreements between the company and the city.

The fare conditions follow substantially in full:

The initial rate of fare is to be 5 cents for each passenger more than six years of age. As the cost of service decreases or increases the rate of fare is to be decreased or increased by successive decreases or in-

creases of 1 cent for each passenger. Whenever the fare is increased above 5 cents, however, the company is to sell tickets or tokens for fares for passengers in strips or packages of five or any multiple of five at a discount of 10 per cent from the fare then in effect. If the fares received during the sale of tickets at a discount are insufficient to make the payments provided for, the company may discontinue the 10 per cent discount on the purchase of tickets and charge each passenger the full rate of cash fare then in effect until such revenue is sufficient to make the payments required.

Children (not more than two for each paying passenger, babes in arms, one year and under not included) under six years of age accompanied by a person paying fare are to be entitled to ride free. No passes of any kind are to be issued to any person except employees of the company.

Mention is made, of course, in the grant of the detailed means of operating the fund for stabilizing the fares.

## Brotherhood Contract Abrogated

### Interurban Men Voluntarily Ask Railway for the Cancellation of Their Union Contract

The contract signed on Dec. 14, 1918, between the Kansas City, Clay County & St. Joseph Railway, Kansas City, Mo., and the unions, was abrogated late in August, upon unanimous petition of the employees.

The contract was indeterminate. It had been punctiliously observed by both trainmen and company. During the eight months contractual relations, there had been no formal demand or request from committees of the unions for modification of terms of the agreement. The decision of the men to discontinue the organization seems to have sprung from general dissatisfaction with the fixed control of details of operation and working conditions by a union contract. There was no question of wage advances or of important changes in rules involved. The petition did not mention wages.

The employees of the Kansas City, Clay County & St. Joseph Railway who had not previously been organized in a formal union associated with national labor bodies formed such unions in the winter of 1918. Contracts were signed by the company on Dec. 14, with the branches in this company's personnel, of the Order of Railway Conductors and the Brotherhood of Locomotive Engineers. J. R. Harrigan, vice-president and general manager of the company, had refused to negotiate with representatives of the national organizations, and the matters had been handled by Mr. Harrigan with committees of the employees. The contract embodied in modified form, the demands of the men, except as to wage scale and certain unreasonable requirements. The document was signed during the period of the strike of employees of the Kansas City Railways, when labor generally in Kansas City was much agitated. It provided a moderate increase in wages, and many features which workmen in various industries were demanding at the time. The local railway strike had been in effect four days, during which time the interurban employees had been idle, be-

cause of suspension of current supply. The power was to be turned into the interurban wires the day following the presentation of the contract, and operation of that line was to be resumed.

#### LABOR RELATIONS PLEASANT

Previous to the organization of the unions, the relations between the company and its men had been particularly pleasant, and there had been satisfactory co-operation towards efficient operation. Within a few weeks after the signing of the contract, dissension among the men, and complaints against the operation of the contract, appeared. The efforts of the leaders of the unions to inspire the former loyal service were not successful. It happened, too, that none of the individual complaints of employees, concerning elements of the contract that worked to their detriment, could be taken up by the unions as subjects of negotiation with the company.

The employees of the company had for years been accustomed to take grievances, and even the most trivial complaints directly to the officials, and these had been promptly attended to. Under the contractual conditions, however, there could be no such dealing with individuals.

#### CONTRACT MAKES FOR RESTRAINT

The lack of the old-time good feeling among the employees, the breaking down of the spirit of co-operation in the efficient performance of daily work, seems to have been an important factor in causing the trainmen to grow dissatisfied with the unionization of the personnel. They had been paying out money, they said, for various union purposes, and were worse off than before. The only thing they would lose by abandoning the unions would be the insurance—and the company was providing insurance facilities.

The first formal intimation to the company that any large proportion of the employees wished to withdraw from the unions, was the presentation on



## Philadelphia's Wonderful Record

**6078 Men Take in \$34,000,000, While More Men in 1910 Took in Only \$19,000,000—Wages Increased 154 Per Cent**

July 31 of the following petition to Mr. Harrigan:

This is to advise you that the undersigned trainmen are no longer members of the Brotherhood of Locomotive Engineers, or the Order of Railway Conductors, or any other organization and it is our purpose in the future to deal with our employers direct and not be bound by any contract that may have been in effect or may be in effect at this time. We feel that the organization has not been a benefit to us and does not warrant the expense incurred.

From past experience we feel that the company will treat us liberally and fairly in the matter of wages and working conditions and we will at all times appreciate such improvement as the officials can consistently make.

This petition was signed by forty-four of the sixty-one trainmen.

The company immediately recognized the abrogation of the contract by these men. The effect of this recognition, however, did not extend to any modification of the contract itself. As it affected the working force as a whole the contract was still effective. There were numerous cases, however, in which the signers of the petition were relieved of conditions onerous to them which the contract had required the company to maintain. Such relief, however, was given only in the regular course of negotiation between the individual and the employee. No wage increase, no definite order affecting only the signers, were awarded. The signers were not, as a group recognized by the company, or "rewarded" for their cancellation of the contract.

On Aug. 28, the seventeen trainmen who had not joined in the original request to the company presented a petition for the complete cancellation of the contract. The men who signed the second petition included some of the employees of longest standing with the company. The restoration of the pre-contract conditions is said to be as gratifying to them as to the other employees, and the company.

Shortly after the first group of forty-four men had presented their petition for abrogation of the contract, Mr. Harrigan announced an increase of 10 per cent in the wages of all employees, including every person in all departments. This announcement made no mention of any contract, nor had there been any discussion of the increase with either the signers of the petition or the remaining seventeen who had not signed. The voluntary granting of the increase in effect implied that the contract no longer existed; but there was no change in any other feature of the contract.

The following table represents the wage adjustments of conductors and motormen during the past year:

	Sept. 1 to Dec. 15, 1918	Dec. 15 (Con- tract)	Aug. 1, 1919
	Cents	Cents	Voluntary advance Cents
			1st 6 months 41
First year	34	41	2nd 6 months 44
Second year	37	44	47
Third year	40	47	50
Fourth year	40	47	52

The wage increase was announced on Aug. 28, but it was made retroactive, effective as of Aug. 1.

The annual picnic of the Co-operative Welfare Association of the Philadelphia (Pa.) Rapid Transit Company was held at Willow Grove on Sept. 3 and 4. It was followed by a dinner on the evening of Sept. 4 given by T. E. Mitten, president of the company, to all of the co-operative committeemen, comprising 122 representatives elected by the employees and a like number of representatives appointed by the company.

### MANY NOTABLES ATTEND

Great interest has been taken in the results secured under this co-operative plan, because under it wages are higher than elsewhere in the State, without increasing the 5-cent fare.

Notables among those present were Chairman Elmquist of the Federal Electric Railway Commission, now holding its inquiry at Washington, D. C., members of the Pennsylvania Public Service Commission, the Committee of Thirteen and prominent Philadelphians including business and newspaper representatives.

During the two days of the picnic practically all of the employees and their families participated, the attendance aggregating more than 50,000 persons. Sousa and his band and community singing led by Rodeheaver were at their best, while athletic events with swimming and other contests for prizes excited great interest.

The "Get Together" meetings each evening in the pavilion were addressed by President Jackel of the Co-operative Beneficial Association, who announced the membership as now being more than 99 per cent of all eligible employees. President Jackel spoke of how co-operation had taken the place of discontent and distrust among the men and on behalf of all the company's employees expressed to President Mitten the appreciation of the men at his square dealing and the wonderful results he had accomplished. At the meeting on Sept. 3 it was announced the proceeds from the picnic were expected to exceed \$20,000, all of which goes to increase the funds in the treasury of the association.

### PRIZES AWARDED

E. T. Stotesbury spoke appreciatively of the accomplishment secured to Philadelphia since 1910 by the co-operation of the men and the management. At the meeting on Sept. 3 Mrs. Stotesbury presented the Stotesbury cups to the rolling stock and building department, winning first prize, and the electrical department winning second prize, as having been the first two departments to attain 100 per cent co-operative membership.

President Mitten, in his after-dinner speech to the employees, reviewed the wonderful results secured by co-operation of the men and management since 1910, at which time the men were poorly

paid and the company practically bankrupt. The management contributed honest purpose—the men responded with earnest effort; the management established good pay—the men gave good work.

According to the figures presented the company carried 445,599,008 passengers in 1910 at an average of 4.13 cents per passenger. More than 850,000,000 passengers will be carried during 1919 at an average of less than 4 cents per passenger. The average number of rides in 1910 was 288 per capita, while in 1919 with good salesmanship on the part of both motormen and conductors it bids fair to exceed 400 rides per capita. These figures demonstrate that the public appreciates the more acceptable service and that the company is on the whole functioning better as a public carrier.

The most convincing figure, however, as to the efficiency of co-operation as fostered by Mr. Mitten is contained in the statement that 6,078 train men are now taking in \$34,000,000 of passenger earnings, while more trainmen were required in 1910 to take in less than \$19,000,000 of passenger earnings. Mr. Mitten credits this wonderful accomplishment to the greater efficiency of the men who have, during this period, increased the effective transportation produced per man by more than 90 per cent.

### GROSS EARNINGS INCREASED 82 PER CENT IN NINE YEARS

The gross earnings of the Philadelphia Rapid Transit Company in 1910 were \$19,232,622, while the gross earnings for 1919 bid fair to be \$35,000,000, an increase of 82 per cent. During this period the average yearly wage of employees has increased from \$622.16 to \$1,581.88, or more than 154 per cent. The company has paid a 5 per cent dividend annually since 1916, while the deficit from operation of \$1,222,735, during 1910, has been changed to an accumulated surplus of \$4,482,119, at the close of 1918.

Mr. Mitten places much of the blame for the present high cost of living upon that class of workman who now demands the biggest pay he ever received and gives in return the least productive work he ever performed. Mr. Mitten says the employees of the Philadelphia Rapid Transit Company do not belong to the "want-more-do-less" class, as they are now producing a much greater amount of transportation value per man than ever before in the company's history.

Mr. Mitten urged co-operation in the home and called upon the wives of the men to see that all of the last wage increase be put into their savings account. He urged upon the men and their families a return to the old-time thrift and economy as the surest means of establishing an assured prosperity.



## Massachusetts Commission Busy

Judge Anderson Points Out Wherein the Electric Railways Are Essential to the State

Federal Judge George W. Anderson, formerly of the Interstate Commerce Commission and the Public Service Commission of Massachusetts, addressed the investigating commission on electric railways at Boston, Mass., on Sept. 2. He pointed out that electric railways are necessary to the public; that jitneys and automobiles privately owned cannot safely transport the volume of traffic forced through modern streets by present combined agencies; and that electric railway service should be preserved out of the tax levy.

### REGULATE THE AUTOMOBILE

Judge Anderson declared that the streets are already jammed with automobiles and that the number of accidents occurring is appalling. Electric railways, he said, are at present being taxed, while automobiles are virtually being subsidized. "The general taxpayer ought not to give free roads to automobiles," said the speaker, "in many instances heavy trucks, which ruin the highways and cost large sums for upkeep of roads, when, at the same time, he is asking the transportation lines to pay for the right to operate." Mr. Anderson said:

The electric railway has been and will continue to be a large factor in the economic, social and moral development of the state. Our great overcrowded cities are a social and moral problem, the solution of which can only be obtained by the removal of the people into the outlying districts. A stable system of transit is an absolute need. Many of the present financial difficulties of the roads are due to failure in the past to account properly for maintenance and depreciation. Many operators believed that the normal increase of patronage would in time offset their failure to put aside proper amounts for depreciation, but patronage was reduced by the development of the automobile. Increased fares should have gone into effect years ago, but the roads hesitated to adopt them because they doubted their wisdom. The roads should also have aided years ago through taxation.

Judge Anderson stated that he was not in favor of public ownership. He advocated the banishment of jitneys so far as possible from streets in the sections already served by electric railways, pointing out that in many cases the jitney drivers operate only during the rush hours, when they are assured of large patronage. As a stockholder in the Boston Elevated Railway, Judge Anderson stated that the public must recognize that investors have put up their money for a public purpose, and that within reasonable limits, their rights should be protected by the State.

### MR. BEELER ADVOCATES SAFETY CARS

John A. Beeler was a witness on Sept. 9 before the electric railway investigating commission at Boston, Mass. He advocated the use of safety cars as a means of doubling service without increasing labor costs materially. The witness declared that many of the present ills of the industry could be cured by this means. He stated that

if the public could buy the Boston Elevated Railway at its present market value the road would be a bargain to the people.

Mr. Beeler favored continuing public control of the Boston Elevated and Eastern Massachusetts systems. He pointed out that the lines of the Boston company could not be reproduced at their original cost and declared that some system should be started by which the 5-cent fare could be utilized to promote short-haul traffic. He urged relieving electric railways of taxes and removing subway rentals from the Boston Elevated Railway.

The witness said that in his opinion no transportation agency in sight could drive the electric railway out of the field, gasoline being ten times as costly as power plant energy. The inability of jitneys to handle traffic in large volume was also recognized by the witness.

Pitt F. Drew, president of the Middlesex & Boston Street Railway, Newtonville, Mass., was also a witness. He stated that his road could not be run successfully for a fare less than 10 cents and that when a choice between this unit and no service was presented, little opposition to the 10-cent rate is encountered.

## Power Contract Inquiry

The directors of the Indianapolis (Ind.) Street Railway have ordered an investigation to determine in the interest of the stockholders and the public that the present arrangement of purchasing power from the main generating station of the Terre Haute, Indianapolis & Eastern Traction Company, using the street railway power station as a subordinate or "standby" station, is the most economical that can be had under existing conditions and to be assured that the power furnished under the present contract with the Terre Haute, Indianapolis & Eastern Traction Company is being measured in a fair manner for both of the properties.

Prof. G. A. Young, head of the school of mechanical engineering of Purdue University, has been employed as an expert by the executive committee of the railway, and he will be assisted by the head of the electrical department and head of the experimental department in electrical and mechanical engineering.

In the merger agreement effected on July 1, consolidating the Indianapolis Traction & Terminal Company and Indianapolis Street Railway, at the instance of the city of Indianapolis, which desired that the city system should be assured of an adequate power supply, it was provided that when the present contract expired in 1922 a new price basis should be established, as called for in the existing power contract, and that the Terre Haute, Indianapolis & Eastern Traction Company should provide power until 1933, the expiration of the street railway company's franchise.

## Bay State Strike Threatened

Employees of the Eastern Massachusetts Street Railway, Boston, Mass., have refused to accept the award of the Federal War Labor Board recently handed down, and a strike involving the entire system was expected Wednesday to follow an ultimatum to the trustees of the company demanding that the above finding be repudiated and a new arbitration be entered upon.

The War Labor Board granted the men a wage increase of 13.4 per cent, bringing the maximum pay to 50.4 cents an hour. The Bay state men demand a wage scale equivalent to that on the Boston Elevated Railway, with a maximum of 60 cents an hour. Later the State Board of Conciliation found that both parties were bound to abide by the terms of the award.

On Monday night the trustees gave out the following statement:

Since Aug. 12, when the National War Labor Board awarded a wage increase of 13.4 per cent, several unfounded reports have been issued by the joint conference board that on certain dates the men would strike in repudiation of this award. Last week the conference board sought to have the State board of arbitration review the wage case and the State board replied that it was the duty of the employees to abide by the War Labor Board award. To-day, a statement issued from Mr. Vahey's (counsel for the union) office that the joint conference board would call a strike Wednesday morning unless the public trustees joined with them in repudiating the War Board's award.

The public trustees feel obliged to reply that they will not be guilty of such an unjust blow at the public, upon whom a \$1,000,000 additional burden has already been placed by the War Board's award.

The public trustees report that it would be far better for the public to submit to the outrageous inconvenience of a strike than to surrender the fundamental principle of arbitration. The trustees are still confident that the men will not violate their agreement and strike and thus lose the \$135,000 back pay under the retroactive award of the War Labor Board.

Contrary to expectations, the employees of the company did not strike on Wednesday. It was announced by the joint conference board of the unions that unless its trustees agreed to the demand that the War Labor Board's award be repudiated by Wednesday, the machinery would be set in motion to start a strike on Friday.

## \$200,000 Fire in Los Angeles

Shortly after 1 a.m. on Sept. 10, fire thought to be of incendiary bomb origin damaged the Pacific Electric Railway's stores and shops at Los Angeles, Cal. The loss was \$200,000. The principal structure destroyed was a two-story brick building 59 ft. x 200 ft., used for storing valuable car repair parts, etc., and as a pattern room and cabinet working shop. The damage to the contents of the store house is estimated \$150,000. Difficulty was experienced in preventing the fire from spreading to adjoining storehouses containing oils and other valuable materials. Many cars and locomotives in the adjoining car shop and on the tracks were saved by moving them in time. The fire was discovered in the portion of the building occupied by the lavatory.



### Court Passes on Wages

United States Judge Frank H. Rudkin has allowed the claim of the employees of the Spokane & Inland Empire Railroad, Spokane, Wash., for increase of wages to the amount of the difference between general order 21 and supplement 4 thereto, and allows such claims priority over the mortgage to the amount of such increase for one month. The opinion was handed down in Federal Court in the case of the First Trust & Savings Bank, trustees, against the Spokane & Inland. Judge Rudkin holds:

The negotiations between the Spokane & Inland and its employees amounted to an agreement to pay the wages being paid on federal controlled roads.

The contract was disavowed by the company on the first pay day after supplement 4 went into effect, by its refusal to pay according to that order.

The employees' claims are entitled to priority over the mortgage to the extent of one month's wages.

The other claims of the platform men are rejected.

The platform men had always dealt with the company, the court states, through the instrumentality of their local union and had a written contract covering wages. The contract provided that either party might give thirty days notice of a desire to reopen the question of wages. Such notice was given by the employees and no new agreement was ever reached.

The employees contended that the giving of the notice terminated the contract and left them working on a *quantum meruit*. Judge Rudkin holds that the notice did not terminate the contract and that they continued to be employed under it and are not entitled to additional compensation.

The court also directs the receiver to file a statement setting forth the amount of the several several claims under the foregoing rule.

The date of the sale of the Spokane & Inland Empire under foreclosure is fixed by the court for Nov. 1 instead of Oct. 1, as suggested by counsel for the bondholders.

The circumstances which led up to the wage matter going to the court for a final ruling were reviewed in the ELECTRIC RAILWAY JOURNAL for Sept. 6, page 492.

### Progress on Cleveland Rapid Transit Line

The Cleveland & Youngstown Railway will inaugurate an express service over its line between the business section of Cleveland, Ohio, and what is known as the Heights, the great residence district of the city on the east side, about Oct. 22. Temporarily the rapid transit service will be over the Cleveland Railway's Broadway line between East Thirty-fourth Street and Pittsburgh Avenue and the Public Square. The time on this section will be about eight minutes, while the time on the rapid transit tracks will be ten minutes.

It is announced that progress is being made in the details looking toward

the beginning of construction work on the new passenger terminal. The Pennsylvania Railway, it is said, has not yet agreed to enter the new terminal. Only four months remain, however, for signing contracts for the use of the depot, and it is probable that everything will be done to get matters in shape as soon as possible.

Engineers are considering plans for the electrification of the Nickel Plate Railroad through the city east and west, but nothing is definitely known as to what will be done in that direction.

### Power Employees Tie Up Toronto Railway

The Toronto (Ont.) Railway was tied up for five hours on Sept. 3, owing to the substation employees walking out. The strike took place because the

The strike took place because the railway did not accept the majority report of the Board of Conciliation in the recent wage case in time to suit the electrical workers. This board brought in a report recommending an eight-hour day with four hours on Saturday for employees other than those on shifts, time and a half for the first five hours overtime and double time for all in excess of that, etc. The schedule of wages to be as follows: equipment repairs, 45 to 68 cents an hour; service inspectors, \$22 to \$25 a week; linemen 51 to 70 cents an hour; wiremen, 54 to 65 cents; jointers, 58 to 68 cents; meter inspectors, etc., \$21 to \$33 a week; station operators and attendants 49 to 65 cents; foremen, \$29 to \$34 a week. The new scale of wages was to take effect from July 21, and to terminate on thirty-days notice.

### New Wage Contract Signed in Birmingham

A new three-year contract has been signed by the Birmingham Railway, Light & Power Company, Birmingham, Ala., and the representatives of the Amalgamated Association at a wage scale of 40, 45, and 50 cents an hour. The new contract has been in operation since Sept. 1. Under the new contract the first-year men receive 40 cents an hour, second-year men 45 cents and three-year men and men of longer service 50 cents an hour. The scale under the old contract was from a minimum of 31 cents to a maximum of 38 cents increasing 1 cent a year.

Under the new contract the shop employees of less than one year service receive an 8-cent increase. Men of more than one but less than two years receive a 10-cent increase and those of longer service a 13-cent increase.

The scale for gas plant employees gives an increase of approximately 10 cents an hour.

Compensation for men instructing students varies from 5 to 10 cents an hour over the regular rates. The compensation for men operating one-man cars provides an addition of from 2½ to 5 cents an hour in addition to the regular scale.

### New Electrified Mileage on St. Paul

On Aug. 24 the Chicago, Milwaukee & St. Paul Railroad placed in service an additional 100 miles of electrified track between Othello and Cleelum, Wash. This includes 19 miles of 2 per cent grade up Saddle Mountain. It was mainly for pusher service on this grade that service has been started on this part of the division in advance of the remainder of the distance to Tacoma.

It is announced that by Jan. 1 the entire 211 miles from Othello to Tacoma will be completely electrified and placed in operation. This will give electrification from Harlowtown, Mont., to Avery, Idaho, and from Othello, Wash., to Tacoma, Wash., leaving still to be electrified the gap between Avery and Othello.

For operation of the electrified section opened on Aug. 24, some passenger locomotives are being converted to freight locomotives by changing the gears. The first new locomotives will be placed in service about Oct. 26. Five new passenger locomotives will be placed on the new line and ten new passenger locomotives on the old line. The forty-two freight locomotives now in service will be divided according to traffic demands.

### Davenport Still Without Service

The Clinton, Davenport & Muscatine Railway, which operates the city lines of Muscatine, Ia., has not been able to come to an agreement with the city authorities of Muscatine and there has been no railway service there since Aug. 1.

On Aug. 29 Muscatine filed an equity suit to compel the company to resume service and on the same date secured a temporary mandatory injunction from Judge M. F. Donegan in district court ordering the company to run cars forthwith in accordance with provisions of the franchise. Notice of the court action was served on the superintendent of the city lines at Muscatine. He was backed by company officials in refusing to let cars go out. The sheriff of Muscatine county ordered individual car men to report at the carhouses, and take out cars. They reported but ran no cars.

B. J. Denman, president of the company, states that no immediate action to resume operation in accordance with the court order will be taken. The equity action is returnable on Sept. 9 and the company will then take the stand that operation at the present fare in Muscatine is confiscatory.

The company agrees to operate if a 7-cent fare is granted and if an ordinance which prohibits the operation of one-man cars is repealed. The Council of Muscatine has so far refused to increase the fare or rescind the objectionable service order. Laboring men at Muscatine ride at 3 cents between the hours of 5 a.m. and 7 a.m. and 5 p.m. and 7 p.m.



## News Notes

**Strike in Mattoon Settled.**—Service on the lines of the Central Illinois Traction Company, Mattoon, Ill., has been restored following a strike of several days. No statement was made public as to the nature of the settlement agreement. The men have been receiving 35 cents an hour. They struck for 15 cents an hour additional.

**Men at Ashtabula Strike.**—The motormen of the Ashtabula (Ohio) Rapid Transit Company went on a strike on Aug. 28, when a new wage scale was not ratified as quickly as they thought it should be. The strike was of short duration, however, as the approval of the president, who was in New York, arrived a few hours after the men left the cars.

**Scranton Agreement Accepted.**—On Sept. 3 motormen and conductors in the employ of the Scranton (Pa.) Railway decided to accept the company's offer of an increase in wages of 4 cents an hour. From now until Jan. 1, the workers will receive 50 cents an hour and on the first of the year they will get 51 cents. A nine-hour day will still prevail.

**Dynamiters Sentenced.**—Nine former transportation employees of the Kansas City (Mo.) Railways accused by the government of having dynamite in their possession and suspected of complicity in the dynamiting of cars and carhouses in Kansas City during the strike last December, were convicted and sentenced by Judge Arba S. Van Valkenburgh recently.

**Wages on Ohio Road Increased.**—The Toledo, Bowling Green & Southern Traction Company has increased the wages of platform men to 48 cents an hour. The company says that this rate will be paid as long as there are sufficient funds. The Councils of Bowling Green, Portage and Maumee have refused the company permission to increase the rate of fare.

**Not to Press Wage Demands.**—The employees of the Washington Railway & Electric Company, Washington, D. C., on Sept. 4 announced that they would not press their demands for higher wages until Oct. 1. The present agreement under which the men are working is based on terms fixed by the War Labor Board. It will expire on Sept. 30. The demands of the men were referred to briefly in the ELECTRIC RAILWAY JOURNAL for Aug. 30, page 449.

**Louisville Service Being Restored.**—The third week of the strike of the trainmen of the Louisville (Ky.) Railway found the company operating twelve city lines and two of its inter-urban lines. Many of the former employees are coming back, and it ap-

peared on Sept. 6 that the strike was nearing an end. Disorder on the part of strikers has calmed down, but sympathizers have been causing a great deal of trouble in the suburbs. No cars were operated on Labor Day.

**Service Resumed in Muskogee.**—The strike of conductors and motormen on the lines of the Muskogee (Okla.) Traction Company, which has been in effect since May 30, with the exception of a few days in July when the trainmen agreed to return to work but later broke their agreement, is still in effect. Cars were taken from the carhouse a few days ago under guard of the citizens committee and have since been operated despite the threats of the striking trainmen and other organized labor in sympathy with them.

**St. Louis Plans Municipal Railway.**—The Citizens' Referendum League of St. Louis, Mo., is preparing in the next few days to circulate initiative petitions providing for a municipally-owned and operated system of railways and subways for St. Louis. The plan provides free transportation for St. Louisians, the cost of operating and maintaining the system to be paid by an increase of taxation. The league has prepared as a criterion to the success of municipal ownership a chart showing the operating expenses, net profit and other items in connection with the operation of the municipal railway of San Francisco for the year ending June 30, 1918.

**War Dead of B. R. T. Honored.**—A monument and bronze tablet to the memory of the fifty-three employees of the Brooklyn (N. Y.) Rapid Transit Company who lost their lives in the war was unveiled on the afternoon of Aug. 30 at the Railroad Men's Building, Jamaica Avenue, Brooklyn. The tablet, attached to a large granite column, cost \$2,000, and was paid for by contributions from the 14,000 employees of the road. The list of names on it is headed with that of Capt. Harry A. Bullock, who was secretary of the New York Municipal Railroad, a subsidiary of the Brooklyn Rapid Transit Company. He was killed at Montdidier, France, on May 30, 1918.

**Paving Charge Rescinded.**—The receivers of the Pittsburgh (Pa.) Railways have been relieved by the United States Court, under which they serve, of bearing the expense of repaving a certain section of West Carson Street, over which a controversy has been waged by the city administration and the receivers for many months. The court takes the stand that to permit the receivers to bear this expense would establish a dangerous precedent in view of the fact that many other municipalities through which their lines run have similar claims to present and it might be impossible for the company to meet them all.

**East St. Louis Men Still at It.**—Although the chairman of the Public Utilities Commission of Illinois announced some time ago that the commission would not act as an arbitration board, the union employees of the East

St. Louis & Suburban Railway, East St. Louis, Ill., have forwarded a request that the commission fix a wage scale for the men. The men struck recently because they were dissatisfied with the award of the War Labor Board, but returned to work under conditions reviewed in this paper for Aug. 30, page 447, among which was a promise of a future conference with representatives of the public included if the need arose for any further readjustments.

**City Favors Taking Over Roads.**—City Solicitor Estes, Howard G. Smith, Harvey E. Clap, William H. Saart and Arthur Sturdy, who represented the city of Attleboro, Mass., in the conference between representatives of the different municipalities through which the Norton, Taunton & Attleboro Street Railway is operated, relative to the sale of the road for \$120,000, reported to the Chamber of Commerce on Sept. 20 that the delegates were unanimous in recommending the purchase of the road at the price named on a basis of equal assessments for the different municipalities. This means \$35,000 for each of the municipalities. A recent act of the Legislature will permit such purchase of the road.

**Budget for Seattle Municipal Railway.**—Thomas F. Murphine, superintendent, has asked for an appropriation of \$7,000,000 for the maintenance and operation of the Seattle (Wash.) Municipal Railway in 1920. The estimate is based on the financial showing of the lines during the first two months of the city operation. Of the amount asked, \$3,066,666 will be required to pay salaries under the new salary adjustment recently adopted. Expenditures and expenses will aggregate \$3,834,354, while improvements amounting to \$161,000 are planned. The estimate does not include the salary of the superintendent of public utilities or other expenses of the utilities department. These are covered in a separate estimate of \$52,055.

**Manchester Wage Award Announced.**—The board of arbitration which has been inquiring into the matter of wages for the trainmen of the Manchester Traction, Light & Power Company, Manchester, N. H., has awarded motormen and conductors 45 cents an hour for the first three months, 50 cents an hour for the next nine months, and 55 cents an hour thereafter. Miscellaneous employees were granted a 25 per cent increase. This gives the conductors and motormen in the employ of the company for three months an increase of 7 cents an hour and those in the employ of the company for more than a year an increase of 12 cents. The increase is retroactive to April 1. It is said that the company will seek an increase in fare from 6 to 8 cents.

**Do Wages or Fixed Charges Come First?**—An order granting the application of attorneys for the city of Des Moines, Ia., to appeal his recent decision in the Des Moines City Railway case to the United States Circuit Court of Appeals has been granted by Judge



Martin J. Wade, of the Federal court. The city's appeal is from that section of the order holding that fixed charges must come out of the revenues of the railway before wages are paid. The city attorneys maintain that the costs of operation including wages must be the first claim upon the operating revenue. According to Corporation Counsel Byers the appeal is taken simply as a precautionary measure to prevent the case being settled before the 6-cent fare is voted upon. The order prevents any further action in the case until after the United States Circuit Court of Appeals holds a hearing.

**Arbitration Accepted on Extension Question.**—C. M. Leslie, receiver for the Interurban Railway & Terminal Company, has advised Street Railway Commissioner W. C. Culkins, of Cincinnati, Ohio, that he is ready to submit all questions involved in the extension of the Cincinnati Traction Company's line to Kennedy Heights to arbitration, but that he cannot agree to the violation of any court order. The question is whether or not certificates of indebtedness held by the Cincinnati Traction Company shall receive preference over notes of bondholders in the distribution of money to be paid to the interurban company by the Cincinnati Traction Company. Mr. Leslie stated that the court had ruled that bondholders be given preference. The Cincinnati Traction Company has agreed to arbitration without qualification.

**Will Exhaust Surplus to Pay Wages.**—The Manhattan & Queens Traction Corporation, Long Island City, N. Y., announced on Aug. 28 that it had decided to grant the motormen and conductors an increase in pay which would make a 25 per cent increase over what they had been receiving on Aug. 1. The employees formerly received 41 and 49 cents an hour. Now they will receive 52 and 62 cents. On Aug. 10 the company voluntarily granted a 10 per cent increase, but a few days later a committee from the men threatened a strike if they did not get another raise equal to a 25 per cent increase in all. The superintendent of transportation of the company is quoted to the effect that the company had agreed to this increase and to give it to the men until the company exhausted the small surplus now in the hands of the receivers, and then suspend operations. The appeal of the company for an increase in fares was referred to the ELECTRIC RAILWAY JOURNAL for Sept. 6.

**Connecticut Interurban Increases Wages.**—The Hartford & Springfield Street Railway, Warehouse Point, Conn., has granted an increase in wages to its motormen and conductors, amounting to an average of 12 per cent over the present schedule. Harrison B. Freeman, the receiver of the company, concludes a statement about the adjustment as follows: "It was felt that a strike resulting in both a loss of wages to the men and a loss of earn-

ings to the railway and engendering bad feeling on both sides and resentment by the public on account of interruption of service, would do the Hartford & Springfield Street Railway no good and the new schedule of wages was adopted without any threat or ultimatum by either side after a full and fair presentation of the facts by both the officials of the railway and the executive committee of the employees' association. It is only fair that the public should understand this situation and that credit should be given to the employees' association for its fair and, in these days, unusual attitude in an industrial dispute."

## Programs of Meetings

### National Association of Railway and Public Utility Commissioners

Official call for the thirty-first annual convention of the National Association of Railway & Utilities Commissioners to be held in Indianapolis, Ind., beginning Oct. 14, has just been issued. The opening address will be delivered by Clyde B. Aitchison, chairman of the Interstate Commerce Commission. Walker D. Hines, Director-General of the United States Railroad Administration, has been invited. Among the important subjects to be reported upon are public ownership and operation, utility companies, railroad rates and service of railroads and service of utility companies, railroad rates and utility rates, demurrage, express companies, grade crossings, statistics and accounts, capitalization and State and Federal legislation. It is expected that the various plans for the return of the railroads to private ownership, as well as the Plumb plan for nationalization thereof, will be discussed.

### Eighth Annual Safety Congress

The preliminary program of the Safety Congress, to be held under the auspices of the National Safety Council at Hotel Statler, Cleveland, Ohio, Oct. 1 to 4, has just been issued. It contains the following list of authors and topics of papers to be presented before the electric railway section:

"The Human Factor in Safe Operation and Maintenance of Rolling Stock," by F. R. Phillips, superintendent of equipment of the Pittsburgh (Pa.) Railways.

"Co-ordination of Safety Between Transportation and Equipment Departments," by G. K. Jefferies, general superintendent of the Terre Haute, Indianapolis & Eastern Traction Company, Indianapolis, Ind.

"Why Does Not Every Electric Railway Have a Safety Organization?" by C. B. Proctor, claim agent of the Memphis (Tenn.) Street Railway.

"Nationalizing and Standardizing Accident Prevention," by Harry Reid, president of the Interstate Public Service Company, Louisville, Ky.

"Electric Railway Hazards—Causes, Effects and Remedies," by R. E. Mc-

Dougall, claim agent of the New York State Railways, Rochester, N. Y.

"Safety Before and After the War," by E. F. Schneider, general manager of the Cleveland, Southwestern & Columbus Railway, Cleveland, Ohio.

In addition to the above, there will be papers of interest to electric railway men delivered before the public utility, public safety and other sections; as well as general or special sessions devoted to Americanization, employees' benefit associations, employees' publications, etc. There will also be a safety exhibit in Grays' Armory, and the week Sept. 28 to Oct. 4 will be "Safety Week" in Cleveland, the goal being to pass the week without a single preventable accident.

### Iowa Electric Railway Association

Further announcement has been made concerning the program of the mid-year meeting of the Iowa Electric Railway Association. The meeting will be held at the Blackhawk Hotel, Davenport, Ia., on Sept. 17 and 18, and the session to be held during the forenoon of Sept. 17 will be divided into four sections, namely: way and structure, shops and equipment, transportation, power and distribution. The paper for the way and structure section will be presented by R. H. Findley, superintendent track and roadway of the Omaha & Council Bluffs Street Railway. This paper will be discussed by W. L. Wilson, engineer maintenance of way of the Des Moines City Railway; C. F. Reaney, acting chief engineer of the Waterloo, Cedar Falls & Northern Railway, and R. J. Smith, engineer maintenance of way of the Tri-City Railway, Davenport.

The paper before the shops and equipment section will be delivered by John Sutherland, master mechanic of the Tri-City Railway, and will be discussed by C. M. Feist, master mechanic of the Sioux City Service Company; T. E. Wood, master mechanic of the Omaha & Council Bluffs Street Railway, and John Duncan, master mechanic of the Fort Dodge, Des Moines & Southern Railway. The paper before the transportation section will be delivered by J. H. Seisseger, general superintendent of the Mason City & Clear Lake Railroad. The discussion will be led by L. L. Sloss, superintendent of the Des Moines City Railway; J. P. Boyle, traffic manager of the Iowa Southern Utilities Company, Centerville, and A. C. Anderson, superintendent of the Keokuk Electric Company.

The paper before the power and distribution section will be delivered by John M. Drabelle, electrical engineer of the Iowa Railway & Light Company, Cedar Rapids. The discussion will be led by D. W. Gilbert, superintendent of power stations of the Omaha & Council Bluffs Street Railway, and D. K. Lewis, electrical engineer of the Fort Dodge, Des Moines & Southern Railroad.

The remainder of the two-day program was announced in the ELECTRIC RAILWAY JOURNAL for Aug. 16, page 328.



# Financial and Corporate

## Chicago Valuation Filed

Reports Showing Surface Railway Figures Presented to Public Utilities Commission

At a hearing before the Public Utilities Commission of Illinois on Sept. 8, reports were filed showing the valuation of the properties operated by the Chicago Surface Lines. The reports were not recorded as exhibits, but are to be used later in the proceedings through which the permanent rates of fare are to be fixed. The fare has been 7 cents since Aug. 8.

The city, through its special counsel, Chester Cleveland, insisted that before hearings are held on the question of valuation there are a number of disputed points to be settled. One contention is that having submitted to one change in their contract ordinance, namely, the charge for fares, the companies must offer to surrender the entire contract. The commissioners intimated that the situation might be different because the city had no authority to enter into such an ordinance with the companies.

It was announced that both the commission and the city would be handicapped in making a valuation through lack of funds for this purpose. The companies figures were prepared after six months of investigation by Stone & Webster and A. L. Drum & Company. One incident of the hearing was the criticism by Commissioner Wilkerson of those who have been responsible for giving to certain newspapers information which appeared to reflect on the motives of the commission.

It was expected that further arguments would be presented on Sept. 12, and that the case of the elevated railways might be combined with that of the Surface Lines.

## Abandonment Threatened

R. B. Claggett, secretary and treasurer of the Columbus Railway, Light & Power Company, Columbus, Miss., has indicated to the Council of that city that the company will be compelled to abandon service on its railway lines unless permission is granted to it to discontinue certain lines which now parallel each other and also make certain other changes in the interest of economy. With the advent of war conditions the company was confronted with a crisis. The situation was met by the Council allowing an increase of electrical and gas rates, which served to safeguard the light service. The increased fares on the railway, however, proved unsatisfactory and the company voluntarily restored the 5-cent fare on Aug. 1 in the hope of increasing its revenue from this source. Mr.

Claggett stated that the railway was losing \$1,000 a month, and its continued operation upon its present basis was out of the question.

## Instruction of Bond Salesmen

Educational Venture Has 150 Enrollments—Attendants at Doherty School Visit Railway Property

Recently Henry L. Doherty & Company announced that they would conduct a class for bond salesmen in New York. A paragraph to this effect was published in two or three of the daily papers in New York. In consequence, some 6000 applications were received for membership in the school. It is obvious that no such number could be accommodated; about 150 applications were accepted, most of them from heads of some department or holding some responsible position in Wall Street.

No pledge is required that the applicant on completing the course shall join the Doherty forces, as the company's desire is quite as much to acquaint men who deal in bonds with the fundamentals of the industries in whose securities H. L. Doherty & Company deal as it is to enlarge its own forces.

The students are divided into sections, and a section meets daily at 7:30 a.m. The conditions underlying the issue and value of all forms of securities are studied. The course will conclude with special attention to Doherty securities. The course is in charge of L. F. Fuld, of the Doherty organization. No charge is made by the firm, either for tuition or for text books. It is a part of the plan to combine text-book instruction with work in the field. The first field trip of the pupils was made on Sept. 6. It consisted of a tour of inspection of the Second Avenue Elevated Railway and the Manhattan & Queens Traction Corporation. On the latter property the party was personally conducted over the system by Mr. Duncan, superintendent, who answered many questions relating to electric railway operation. The party traveled over the line in a special car.

## Has \$105,797,989 Still Due

Advances of \$200,285,523 have been repaid to the War Finance Corporation, according to announcement on Aug. 22, leaving outstanding a balance of \$105,797,989. The loans have been made to railroads, public utilities, industries and cattle growers. Although the corporation has authority to issue \$1,000,000,000 in bonds for the financing of export trade, it is not expected that any advances for this purpose will be made before the conclusion of peace.

## Slight Gains for Lake Shore

Results in 1918 and 1917 Compared in Income Statement and Operating Statistics

A comparative statement of the results of operation of the Lake Shore Electric Railway System (comprising the Lake Shore Electric Railway, the Lorain Street Railroad, the Sandusky, Fremont & Southern Railway, the People's Light & Power Company and the Bellevue Illuminating & Power Company) for the years ended Dec. 31, 1918 and 1917, follows:

	1918	1917
Gross income .....	\$2,189,234	\$1,786,011
Operating and taxes .....	1,593,083	1,210,690
Net .....	\$ 596,241	\$ 575,321
Interest paid .....	432,860	421,333
Surplus .....	\$ 163,381	\$ 153,988

E. W. Moore, president of the company, reviews the work carried out during the year. Considering the conditions which obtain in the labor field and in the market for materials the work of keeping the physical property of the company up to standard was well carried out.

Attention is called to the fact that the franchises of the Lake Shore Electric Railway and the Lorain Street Railway in Lorain were both renewed during the year for a period of twenty-five years.

## \$118,548 CHARGED TO CAPITAL ACCOUNT

The total expenditures for additions and improvements to be charged to capital account were as follows:

Lake Shore Electric Railway.....	\$100,648
Lorain Street Railroad.....	9,202
Sandusky, Fremont & Southern Railway .....	50
Bellevue Illuminating & Power Company .....	4,344
People's Light & Power Company.....	4,304
Total .....	\$118,548

Operating statistics of the Lake Shore Electric Railway follow:

	1918	1917
Car miles .....	3,522,668	3,593,009
Income per car-mile, cents .....	49.24	39.51
Operating and taxes per car-mile, cents ..	35.82	26.57
Net earnings per car-mile, cents .....	13.42	12.94
Passengers carried .....	5,947,163	6,241,350
Earnings per passenger, cents .....	22.49	18.36

Operating statistics of the Lorain Street Railroad follow:

	1918	1917
Car-miles .....	694,542	685,293
Income per car-mile, cents .....	41.61	31.92
Operation and taxes per car-mile, cents .....	28.74	21.81
Net earnings per car-mile, cents .....	12.87	10.11
Passengers carried .....	4,273,220	3,711,368
Earnings per passenger, cents .....	6.76	5.90

Operating statistics of the Sandusky, Fremont & Southern Railway follow:

	1918	1917
Car-miles .....	232,643	233,340
Income per car-mile, cents .....	47.74	41.90
Operation and taxes per car-mile, cents .....	40.35	30.98
Net earnings per car-mile, cents .....	7.39	10.92
Passengers carried .....	287,165	345,080
Earnings per passenger, cents .....	35.36	26.82



## Washington Values Fixed

### After Five Years District of Columbia Public Utilities Learn Their Value for Rate-Making Purposes

The Public Utilities Commission of Washington, D. C., has completed a task begun in May, 1914, fixing values for rate-making purposes on the properties of the Capital Traction Company and the Washington Railway & Electric Company.

The findings of the commission declared a fair total value of the Capital Traction Company as of June 30, 1919, to be \$14,270,495, or approximately an increase of \$1,000,000 over the value set by the commission for the company as of July 1, 1914. The company's claim for reproduction value, including expenditures as of June 30, 1919, was \$25,951,679; while its historical value estimate, including expenditures, as of the same date, is \$19,418,298.

A fair total value for the Washington Railway & Electric Company was fixed by the commission at \$16,106,368 as of June 30, 1919, which allowed an increase of valuation of \$1,500,000 since July 1, 1919. This company, estimating up to July 1, 1916, submitted claims of \$30,778,083 for historical value, and \$29,656,382 for reproductive value.

One of the commissioners rendered a dissenting vote. In view of this fact it is expected that an appeal will be taken by the companies. An appeal might delay the establishment of the valuation for several years, as an appeal taken by a subsidiary of the Washington Railway & Electric Company against a valuation set by the commission in May, 1917, is still pending in the courts.

Commissioner Gardiner, in submitting a minority report in the valuation case of the Capital Traction Company, takes issue with his associates as to the method used in determining fair value. Mr. Gardiner held that the only fair procedure of valuation to be one which determined fair value as of the present time, taking as a basis what is found to be a fair permanent basic cost of reproducing the property. If Mr. Gardiner's contentions are sustained by the courts they will lead to a much higher valuation for both companies than the majority of the members of the commission have allowed.

It was announced that pending the final review of the valuations by the courts, the commission would use the figures as a basis for fixing rates in Washington. Commissioner Brownlow said the application of the Washington Railway & Electric Company for authority to charge increased rates would be considered at a public hearing by the commission on Sept. 18. This rate matter was delayed pending the completion of the valuations.

Mr. Gardiner points out that the commission omitted an item of \$5,143,907 in the case of the Capital Traction Company, the amount paid by the Rock Creek Railway for the Washington &

Georgetown Railroad in 1916. In commenting on this point, Mr. Gardiner said:

I believe it to be the duty of this commission to protect those who have innocently and honestly invested their money and not take from them \$5,143,907 of the value of their property because a commission created some fifteen years after this transaction believes that the purchase price agreed upon by this committee was in excess of the sum which the commission thinks should have been paid.

Mr. Gardiner declared it was not for the commission to decide the sum paid was excessive, pointing out that in a case of this sort the commission must recognize the contract entered into, and that it must allow the company a sum equal to such purchase price in determining the fair value of the property to the present stockholders.

### Interurban Committeemen Want City to Act

Elliott C. McDougal, chairman of the protective committee representing holders of the collateral trust 4 per cent bonds of the International Traction Company, Buffalo, N. Y., has issued a statement calling attention to the seriousness of the railway situation in Buffalo and severely criticising the city officials for prolonging litigation over the rate case after the decision of the State Court of Appeals.

Mr. McDougal says that notwithstanding statements to the contrary, there is grave danger of receivership and bankruptcy for the International Railway. The bondholders' committee, he states, learned after an investigation that during the year ended May 1, 1919, the International Railway lost in operation more than \$750,000. He says that if the committee had not loaned the railway \$800,000 to pay interest in January and July on more than \$17,000,000 of its bonds, there would have been a receivership. According to Mr. McDougal the committee has twice saved the company from bankruptcy. On Nov. 1, 1919, another installment of interest on the company's bonds will be due and Mr. McDougal declares that "unnecessary delay in the rate case will be criminal."

### Ancillary Receivers for Wheeling Company

Joseph D. Whittemore and Francis R. Harbison, both of West Virginia, have been appointed ancillary receivers for the West Virginia Traction & Electric Company by Judge Charles P. Orr, in United States District Court.

The company is a West Virginia concern, and recently suit was filed against it by Albert M. Cooke, which resulted in Messrs. Whittemore and Harbison being appointed receivers by the Federal Court for the Northern District of West Virginia.

The company's properties extend into a district coming under the jurisdiction of the Federal District Court for the Western District of Pennsylvania and it was therefore necessary to have ancillary receivers appointed to supervise these properties.

### Lewiston, Augusta & Waterville Sold at Auction

The property and franchises of the Lewiston, Augusta & Waterville Street Railway were sold at auction on Sept 5 at Auburn, Me., for \$80,000 to a syndicate representing the first mortgage bondholders and the holders of the refunding bonds. The sale is subject to the approval of Associate Justice Merrill of the Maine Supreme Court, by whom it was ordered on the petition of the trustees under the mortgages securing the first and refunding bonds of the road, amounting to \$2,937,000, on which interest in excess of \$151,133 had not been paid.

It was announced after the sale that the company will be reorganized. It is now being operated by receivers.

The Turner branch of the system, covering about 12 miles of track out of the 167 forming the road as a whole, was sold for \$30,000 (included in the \$80,000) exclusive of franchise. The branch line will be discontinued, according to present plans.

### Seattle Again Reports a Profit

A report filed with Mayor Hanson by Superintendent Thomas F. Murphine shows that the revenue of the Seattle (Wash.) Municipal Railway for the month of July, 1919, was \$461,228. This amount is a gain of \$23,372 over the month of June, 1919, and \$36,557 over the month of July, 1918. In a statement accompanying the report, Mr. Murphine said in part:

The total known operating expenses are shown to be \$378,462, as compared with a total of \$367,026 for the month of June, 1919. From a gain or profit of \$82,765 for the month we have deducted an item of \$65,635, being interest on outstanding bonds, and an item of \$7,664, being a proper amount for industrial insurance to be apportioned to the month of July; also an estimated item of \$1,817, which is in addition to the \$5,182 for damage claims already paid in July. When these deductions have been made there is shown a net gain of \$7,648 for the month.

Extraordinary expenditures of a rehabilitating character totaling \$85,448 during this month more than offset depreciation, an average charge for which would in our judgment be \$25,000. This maintenance expenditure for the month of July is at the rate of \$1,025,382 for the year and represents approximately 19 per cent of the total revenue for the railway for the month.

We operated during this month a total of 158,451 car hours, which is 28,879 car hours in excess of the car hours during the corresponding month of the previous year by the combined lines of the Puget Sound Traction, Light & Power Company and the Municipal Railway Divisions A and C.

It is also shown that we operated 1,416,248 car miles, which is 19 per cent in excess of the car miles operated in the same month of the previous year. In view of the fact that the use of other transportation mediums has greatly increased this year over last year, the increase of 19 per cent in the car mileage of our railway indicates that the people of the city of Seattle are getting increased transportation service which is in excess of the increased growth of the population of the city.



**Does Seattle Have to Pay?**

The courts will be asked to decide whether the city of Seattle, Wash., can be required to pay a tax of \$275,000 on the \$15,000,000 railway purchased last March from the Puget Sound Traction, Light & Power Company. When the city and railway were about to close the deal for transfer of the property in March, the State Tax Commissioners fixed the valuation of the property at \$12,000,000 for the purpose of taxation and put it on the tax rolls on that basis. The city's share of the tax this year on the \$12,000,000 valuation was figured at \$275,000. At that time, protests were made by both the city and company on the ground that before the tax could be legally spread on the rolls, the property would be in the possession of the city and not subject to taxation. The Tax Commissioner, however, took the position that somebody had to pay the tax.

**Decision to Continue Operation**

Stockholders of the Swansea & Seconk Street Railway met in Swansea, Mass., recently and authorized the directors to resume operation of the road at once. While the prevailing sentiment was that service should be resumed, there were several dissenters and no one was optimistic enough to express the opinion that the operation would ever be a success financially. The attitude of the employees and the causes which resulted in the discontinuance of service were referred to only once during the meeting. That was when a stockholder inquired if it was because of the strike that the operation of the road ceased. He was informed that there was no strike, but that every employee of the company had resigned. A letter directed to the officers of the road was read to corroborate the statement.

**Financial  
News Notes**

**Sale of Collateral Adjourned.**—The sales of \$2,500,000, West Virginia Traction & Electric Company general and refunding twenty-five year 5 per cent gold bond pledged as collateral to secure an issue of \$1,800,000 of 6 per cent gold notes of the West Virginia Traction & Electric Company, Wheeling, W. Va., which was set for Sept. 4 has been adjourned for two weeks.

**Asks Company About Security Issue.**—Officers of the Cincinnati & Columbus Traction Company, Cincinnati, Ohio, have been cited to appear before the Ohio Public Utilities Commission on Oct. 22 to show cause why they should not abandon the authority granted them in 1915 to issue \$1,800,000 of securities, from the proceeds of which they expected to extend the line to Chillicothe. Some of the securities were sold, but no work was done on the proposed extension. Recently the commission granted authority for the abandonment of a portion of the line.

**Date Set for Sale of Collateral.**—At a meeting of the protective committee of noteholders of the Washington Utilities Company, Washington, D. C., on Sept. 4, it was decided to sell the common stock of the railway at public auction on Sept. 24. The metropolitan Trust Company has been designated as trustee. As noted in the ELECTRIC RAILWAY JOURNAL for Aug. 2 sale of the 27,500 shares of the common stock of the Washington Railway and Electric Company held as collateral for the defaulted notes of the Wash-

ington Utilities Company was ordered on July 25 by the protective committee.

**Receiver Appointed for Ohio Road.**—On Aug. 29, George Whysall, president of the Columbus, Marion & Bucyrus Traction Company, was appointed receiver for the Springfield Terminal Railway & Power Company by Judge John E. Sater, of the United States District Court. The company operates an inter-urban line between Springfield and Troy, Ohio. It is said that the earnings for some time have not been sufficient to pay expenses, to say nothing of fixed charges. The company is in default on interest due in December, 1918, and in June, 1919, on bonds amounting to \$250,000. The application for a receiver was filed by Harley E. Burns, representative of the Central Trust Company, Chicago.

**St. Louis Certificates Offered.**—The issue of receivers' certificates by the United Railways, St. Louis, Mo., to which reference has been made previously in the ELECTRIC RAILWAY JOURNAL, is being offered for subscription by William R. Compton Company, New York and St. Louis, the First National Bank, the Mercantile Trust Company, Francis Brothers & Company, the Mississippi Valley Trust Company and the Stifel-Nicolaus Investment Company, St. Louis. The certificates are being put out at 99.05 and interest to yield about 7 per cent. The total issue is \$2,300,000 running for one year at 6 per cent, dated Sept. 2, 1919, and are due on Sept. 2, 1920. They are in the denomination of \$1,000. As explained previously in the ELECTRIC RAILWAY JOURNAL, the entire proceeds of this issue will be used for the purpose of paying the loan from the War Finance Corporation, to secure which \$3,500,000 of Union Depot Railroad first mortgage 6 per cent bonds were pledged by the United Railways as collateral. These securities will now be released.

**Electric Railway Monthly Earnings**

BATON ROUGE (LA.) ELECTRIC COMPANY						LAKE SHORE ELECTRIC RAILWAY, CLEVELAND, OHIO					
Period	Operating Revenue	Operating Expenses	Operating Income	Fixed Charges	Net Income	Period	Operating Revenue	Operating Expenses	Operating Income	Fixed Charges	Net Income
1m., June, '19	\$29,498	*\$18,793	\$10,705	\$3,380	\$7,325	1m., June, '19	\$226,427	*\$154,785	\$71,642	\$35,825	\$35,817
1m., June, '18	23,272	*10,961	12,311	3,477	8,834	1m., June, '18	186,672	*126,267	60,405	36,405	24,380
12m., June, '19	314,115	*187,404	126,711	42,107	84,604	6m., June, '19	1,190,196	*898,933	291,263	215,193	76,070
12m., June, '18	245,509	*126,229	119,280	39,272	80,008	6m., June, '18	958,841	*711,565	247,276	217,029	30,247
CAPE BRETON ELECTRIC, LTD., SYDNEY, N. S.						PENSACOLA (FLA.) ELECTRIC COMPANY					
1m., June, '19	\$46,529	*\$36,883	\$9,646	\$5,330	\$4,316	1m., June, '19	\$44,151	*\$33,759	\$10,392	\$8,379	\$2,013
1m., June, '18	40,097	*29,940	10,157	5,255	4,902	1m., June, '18	42,732	*26,199	16,532	7,061	9,471
12m., June, '19	556,491	*426,428	130,063	64,188	65,875	12m., June, '19	558,923	*434,441	124,481	93,290	31,191
12m., June, '18	486,048	*339,416	146,632	63,057	83,575	12m., June, '18	417,518	*259,589	157,929	82,758	75,178
CLEVELAND, PAINESVILLE & EASTERN RAILROAD, WILLOUGHBY, OHIO						PUGET SOUND TRACTION (WASH.) LIGHT & POWER COMPANY					
1m., June, '19	\$63,130	*\$36,679	\$23,451	\$15,331	\$8,120	1m., June, '19	\$666,787	*\$463,947	\$202,840	\$265,340	\$55,409
1m., June, '18	50,169	*34,996	15,171	11,795	3,376	3m., June, '19	2,081,752	*1,390,058	691,694	879,194	260,388
6m., June, '19	30,652	*210,805	95,847	90,011	5,836	6m., June, '19	5,196,784	*3,688,407	1,508,377	1,695,888	461,668
6m., June, '18	256,192	*175,870	80,322	68,939	11,382	TAMPA (FLA.) ELECTRIC COMPANY					
1m., June, '19	\$22,705	*\$18,875	\$3,830	\$3,993	\$1,163	1m., June, '19	\$97,926	*\$62,515	\$35,411	\$4,770	\$30,741
1m., June, '18	25,679	*18,890	6,688	4,106	2,582	1m., June, '18	83,134	*51,094	32,039	4,263	27,776
12m., June, '19	304,373	*213,246	91,127	48,917	42,210	12m., June, '19	1,159,080	*688,692	470,387	53,289	417,098
12m., June, '18	337,476	*219,327	118,149	49,678	68,471	12m., June, '18	1,003,642	*583,089	420,553	51,017	369,536
HOUGHTON COUNTY TRACTION COMPANY, HOUGHTON, MICH.						SAVANNAH (GA.) ELECTRIC COMPANY					
1m., June, '19	\$81,207	\$71,737	\$9,470	\$14,388	\$4,918	1m., June, '19	\$118,664	*\$99,343	\$19,321	\$24,517	\$5,196
1m., June, '18	60,984	47,264	13,720	14,652	932	1m., June, '18	96,677	*65,253	31,424	23,117	8,307
12m., June, '19	1,025,600	873,336	152,264	177,138	124,874	12m., June, '19	1,300,886	*1,037,554	263,332	291,247	127,915
12m., June, '18	781,551	540,523	241,028	170,427	70,601	12m., June, '18	1,071,436	*719,354	352,082	275,909	76,173

\* Includes taxes, † Deficit.



# Traffic and Transportation

## All Eyes on Jersey

### Public Service Railway Ready for Installation of Zone-Mile System of Fares on Sunday

On Sunday, Sept. 14, 1919, coincident with the first car out on regular runs, the mile-zone system of fares will go into effect on the lines of the Public Service Railway in New Jersey. Fares will be based on 3 cents for the first mile and 2 cents for each additional mile on every car without transfer.

Approximately 600 cars operated on lines of heavy travel and having a considerable number of zones will be equipped with National cash registers, class 700. All other cars will carry Johnson registering fare boxes and overhead registers, on which the number of passengers carried will be registered.

The number of cash registers will be gradually increased during the following month until all cars operating on routes having three or more zones are equipped. This will call for practically 1300 registers.

The campaign of publicity outlined in last week's issue is going forward. Moving pictures of the scheme were first displayed at the Newark Theater on Sunday last. Much favorable comment has been received on this phase of the educational campaign.

Meetings of superintendents and supervisory forces were held during the week ended Sept. 13 for final instruction and for the purpose of clearing up all questions of doubt so as to insure universal treatment throughout the system, especially as regards the matter of fare collection and the handling of disputes on the first few days of operation.

No serious complaints have as yet come to the attention of the railway officials, although in some communities objection has been made that all the zones are not exactly a mile in length—this being due to the fact that the more important points which were made zone limits were not always exactly one mile apart, and a tolerance of 500 ft. was in general allowed in either direction.

## Every Conductor a Salesman

The Eighth Avenue Railroad, New York, N. Y., of which W. B. Yereance is general manager, sent to each of its conductors on Aug. 29 the following memorandum:

This company is trying to give the public the best transportation service in this city, and it is directly up to the conductors to see that such service is given.

The conductor is this company's salesman, and we want you to realize that it is your actions that form the traveling public's opinion of the entire organization.

YOU are selling our patrons what we have—and no one else is doing it. If you

cannot sell our goods, (our transportation), the company cannot exist, and the better pleased our customers are with your service, the greater prosperity the company (which includes you), will enjoy.

Keep yourself neat, be alert, and remember that a smile goes a long way.

I hope that you will all realize this, and co-operate toward making The Eighth Avenue Railroad a line that will be popular with the people of New York. If you have any suggestions to make toward this end, come up and tell them to me. If practicable, we will put them into effect.

The memorandum is signed by H. S. McGinness, supervisor of transportation.

The Eighth Avenue Railroad was segregated recently from the other properties included in the system of the New York Railways and is now being operated separately. This change, which went into effect on Aug. 1, was suitably announced to the public by the company and was followed on Aug. 15 by a special bulletin to the public about the plans of the company reproduced in the ELECTRIC RAILWAY JOURNAL for Aug. 23, page 414.

## New York State Mayors Confer on Fares

A plan advanced by Mayor John F. Hylan of New York, aimed to defeat legislation permitting electric railways to increase fares, was turned down at Syracuse, N. Y., on Sept. 8 by the advisory council of the State Conference of Mayors, representing every municipality of any size in the State. The council adopted the following resolution:

Whereas the Mayor of New York City has directed a letter to the president of the State Conference of Mayors and city officials seeking co-operation in a campaign to pledge candidates for the Assembly to oppose any legislation which will in effect nullify franchise restrictions limiting the rate of fare charged by street railways; and

Whereas the letter from the Mayor of New York has been referred to the advisory council of the conference, now, therefore, be it

Resolved, That we are opposed to any legislation which will give to the Public Service Commission the power to increase fares in those cities where franchises limit the rate of fares;

That we believe such legislation is contrary to the spirit of municipal home rule; that each municipality should be permitted to determine for itself what modifications, if any, should be made in franchise restrictions, and that each municipality can be trusted to decide such questions from the standpoint of public interest, with due regard to the property of street railways being permitted to earn sufficient revenue to maintain good service and to pay interest and operating expenses;

That, inasmuch as it is not a function of the conference to participate in political campaigns or to influence in any way the selection of public officials, we cannot co-operate in pledging candidates for the Assembly, but must restrict ourselves to presenting our views at the proper time to the Legislature and the Governor.

Disapproval of the Hylan plan is said to have been directly due to assurance from Governor Alfred E. Smith that he will veto any increased fare legislation not approved by the conference.

## Asks Rate Truce

### Governor of West Virginia Requests Utilities to Hold Applications in Abeyance Pending Conference

Governor Cornwall has addressed the electric railway and other public utilities in West Virginia which have applications for increases in rates pending before the Public Service Commission of West Virginia. He suggests that such companies temporarily suspend their efforts to secure increases pending the conference of the representatives of industry, of labor organizations and of the farmers, to be held in Washington early in October. In other words, the Governor desires a truce in so far as the settlement of rate increases is concerned. The letter of the Governor follows in full:

The President of the United States has called a conference of representatives of industry, of labor organizations and of the farmers, to be held in early October, in an effort to work out a wage-basis, or at least to secure a better understanding and a more harmonious policy as affecting them and the public generally. In the meantime vigorous efforts are being made to stop the rise in and, if possible, to reduce, the cost of living.

Pending the proposed conference and an ascertainment of the results of the Federal and State governments in their war on high prices, a tentative "truce" has been established whereby it is understood demands for further wage increases will be held in abeyance.

I need not point out the wisdom of such "truce." As long as one element or factor, in the economic circle, continues to climb upward all the others will, in fact, must, do likewise. To stop the ascent with justice to one or all, all must stop together.

It is unquestionably true that fares and rates of public utility corporations have lagged behind in the ascent of prices, and to the extent that many of them throughout the country are embarrassed, some facing bankruptcy. Many are applying, in this State, to the Public Service Commission for the privilege of increasing rates. Your company is one of that number. As to the merits of your claim, I know nothing. It will be the commission's task to ascertain the facts and make the proper order.

However, I do believe that during the "truce" referred to, and pending the effort to stabilize the industrial situation throughout the country, all public service corporations should agree likewise to declare a "truce" and hold in abeyance their applications for permission to increase rates or fares, as the case may be.

If the wage-earner is willing to wait the outcome of efforts to bring down the cost of living, public service corporations should be willing to wait also, no matter how urgent their requirements or how pressing their needs.

In this crisis there must be full co-operation between all interests. A little patience and forbearance will go a long way toward helping to solve the situation. All good citizens, whether wage-earners or corporation heads, will be willing to make any reasonable sacrifices to aid in the restoration of normal conditions. An announcement that all public utility companies in this State had temporarily suspended their efforts to secure increases would, in my judgment, have a very helpful effect, psychologically, at least.

May I inquire whether your company is willing to join in such an announcement?

## Register Finding at Boston

The arbitration board appointed to adjust the dispute on the Eastern Massachusetts Street Railway, Boston, Mass., over the use of the Rooke register has handed down a finding to the effect that the register shall not be used on open cars of the running board type after Jan. 1, 1920, but that it may continue to be used on all other types of cars at the discretion of the company.



## Tangible Results Expected

### Fare Matters in New York City Appear Now to Be on the Way to Definite Action

Events seem to be moving fast toward a point where tangible results may be expected in connection with the fare matter in New York City. On Sept. 7 Mayor Hylan wrote to Public Service Commissioner Nixon asking him specifically as to the intended procedure of the commission with respect to the application of the Manhattan & Queens Traction Corporation for an increase in fares. On Sept. 8 Judge Mayer, under whose jurisdiction are the receivers of the Brooklyn Rapid Transit Company, the New York Railways and the Interborough Consolidated Corporation, made public a memorandum disclosing the serious financial situation confronting the companies. On Sept. 9 Public Service Commissioner Nixon asked the Mayor if he would not "with an open mind call a conference that will be of so earnest a character that all phases of the situation may be recognized and a satisfactory solution arrived at." Meanwhile Governor Smith and Mr. Nixon were in conference. The only statement that followed this talk was that the Governor had said the fare matter was altogether up to Mr. Nixon.

#### NIXON RESTRAINED BY COURT

As for the Manhattan & Queens Traction case, referred to first, Mayor Hylan made good his threat to institute court proceedings to prevent the commission from granting further fare increases, as Corporation Counsel William P. Burr on Sept. 8 obtained from Supreme Court Justice Wagner an order to show cause why Commissioner Nixon and the receivers of the Manhattan & Queens Corporation should not be prohibited from taking any further action in the application of the line for an increase in fare. Justice Wagner, in the order, which was returnable on Sept. 12 stayed all proceedings by Commissioner Nixon and the receivers, thus effectively blocking any decision being made at the hearing called by the commissioner for Sept. 9.

Judge Mayer included as part of his statement to the press the full conclusions of Stone & Webster. The engineers hold that "upon the present basis of prices for materials and supplies, rates of wages, and fares there is no hope that the elevated and subway lines of either borough will earn interest upon the companies' investment in the subways for many years to come, if ever." The court says it seems an obvious duty "that plans should be worked out for determining the permanent status of the transportation companies and their legal and financial relations to the state and the municipal government."

In his letter asking the Mayor for a conference Mr. Nixon outlined the readjustment plan which he has in mind for the companies as follows:

1. Each of the present transit systems to be simplified by the consolidation or merger of the constituent companies into one railroad company.
2. All holding companies, not railroad companies, to be abolished.
3. Leases of roads to be terminated.
4. Perpetual franchises to be changed to franchises limited to fixed periods, within city charter limitations, or to what are known as indeterminate franchises.
5. Values of property to be arrived at in such a way that the determination shall be unquestioned.
6. The city to have the option of acquiring the properties within a fixed period at an agreed valuation plus the cost of additions, extensions, and improvements. It may be advisable to provide for the amortization of purchase price out of earnings.
7. A flexible fare to be established whereby fares shall be automatically adjusted to meet the cost of service, together with a reasonable return to capital upon the agreed fixed valuations and upon the cost of additions, extensions, and improvements. The variation in fare to be secured by maximum and minimum limits in a surplus fund. Only by such means can ultimate lower fares be secured.

8. The city to have a representative upon the directorate of all companies.

9. The readjustment of preferentials and possible refunding of certain loans and advances to be secured in the order in which returns are paid on city bonds, so that at least substantial blocks of such bonds may become self-supporting and so automatically freed from the debt limit.

Meanwhile the Mayor's Non-Partisan Vigilance Committee has replied to Judge Mayer. Through its secretary the committee said in conclusion:

If Judge Mayer means by the somewhat ambiguous tenor of his memorandum to imply that he is willing to sanction abrogation of existing contracts between the city of New York and the traction company, guaranteeing a 5-cent fare to the traveling public, his individual and peculiar construction of the law ought to be set forth in plain words and not by innuendo. When it is remembered that the traction properties referred to by Judge Mayer have been the football of crooked promotion for over two decades, the alarmist qualities of the Stone & Webster figures are dissipated. Payment of interest on "guaranteed leases" at from 7 to 22 per cent make up a large portion of the deficit predicted by Judge Mayer's accountants.

If the Judge and his experts have forgotten the stock watering exploits of the Wideners, the Whitneys, the Bradys, and others, the public has not.

## Face the Facts

### Auburn Official Points Out in Unmistakable Terms the Consequences of Delay

Auburn, N. Y., has a fare situation. There is nothing particularly new in that, but there is something new in the method of approaching the matter adopted by the public authorities of that city. Once before did the local electric railway, the Auburn & Syracuse Electric Railroad, apply to the city for permission to increase fares. In that instance the company desired to charge a 6-cent fare in Auburn. Because of franchise restrictions the company's application came within the Court of Appeals decision in the Quincy case. The Auburn authorities, however, waived the franchise restrictions and submitted the matter to the Public Service Commission for determination. On Dec. 31 last that commission authorized the company to charge 6 cents.

#### RELIEF MUST BE GRANTED

The 6-cent fare has proved inadequate. Now comes the company with a request to the Council for permission to charge 8 cents. In consequence City Attorney Richard C. S. Drummond was directed to report on the subject. Mr. Drummond has presented the results of his study to the Council in two installments, one on Aug. 26 and the other on Sept. 1.

Mr. Drummond in his preliminary report said that the figures already submitted by the company to the Council in support of its application apparently made a case for the relief sought. It is to the details of his study of the subject, however, that the greatest interest attaches. Briefly stated, he finds the company confronted with an insistent demand on the part of the employees for a substantial increase in wages, and with no funds or the prospect of revenue sufficient to pay the increased wages at the present rate of fare. Mr. Drummond says that the question that

confronts the people of Auburn is whether they feel that the present demand made by the employees of the company for an increase in wages is justifiable. He states the issue clearly thus:

The time has approached when the public itself must face issues of this sort, come to its own decision, and announce without evasion or timidity the course it desires its officials and representatives to take. The time has gone for camouflage, and self-deception and demagoguery. The situation must be honestly faced and honestly handled.

It is generally conceded that the operation of electric railroads is now and for some years past has been unprofitable. The credit of the roads is gone. Investors will no longer purchase electric railway securities, the companies can no longer borrow money. Our own company is in this exact situation. The present management of the Auburn Company is skillful and efficient. Its expenses have been pared down to the bone, even below the point of prudence. Conditions are bound to get worse rather than better, unless additional revenue can be supplied.

By law, in common sense and in good morals the company is entitled to a return for the service it renders the public. The Council cannot avoid responsibility in the matter, but neither can the public. The public must consider, discuss and decide, and it should advise the Council. If additional money is not provided the consequences are clear and certain.

In the continuation of his report presented to the Council on Sept. 1 Mr. Drummond calls attention to the figures of receivership and the other data on electric railways published in the *Literary Digest* for Aug. 23. He says that the imagination may profitably be allowed to work on the spectacle of the city of Auburn trying to exist without its present electric railway system. That motor buses and jitneys could ever effectively take the place of the electric railway, he holds, is inconceivable. A 10-cent fare would not at all cover the cost of such service.

He says that if the public approves of the demand of the company and of the granting of the demand, it should then honorably prepare itself to pay



the price. Unless the public announces itself to the contrary in no uncertain terms the representatives of the public in public office may assume, upon the basis of recent experiences, that the public is either in favor of the granting of the wage demands, or at least feels that the granting of these demands is inevitable and hence that it is prepared to accept the consequences of such action. In this connection he says:

For a while it is to be borne in mind that the present application is being made not for the benefit of the company, but simply for the benefit of its employees. We may as well face the fact that we shall have to acknowledge the necessity of paying higher fares as a matter of mere self-preservation. In whatever aspects the case is considered the people of Auburn must admit the truth and address themselves to the taking of these measures which alone will avail to relieve the very difficult situation that now confronts them all.

A community makes nothing by compelling a starving railway to eke out a miserable existence. The community benefits only as the company is itself prosperous and flourishing.

Mr. Drummond says that purchase of

## Boston's Five-Cent Service to Be Extended

The trustees of the Boston (Mass.) Elevated Railway have decided to extend the non-transfer local 5-cent fare service to South Boston, beginning on Oct. 1. One line will be operated from L Street and Broadway to the South Station via Summer Street extension and the other from Dorchester Street to the South Station via Dorchester Avenue.

Edward Dana, acting general manager of the company, announced the new service in a letter to W. H. McDonnell of the street railway investigating commission, also stating that the company has expended about \$900,000 to build additional track at car houses and to provide new center entrance cars, some of which will benefit South Boston.

The new 5-cent rates will deliver passengers at points within easy walk-

be used for freight traffic in getting more food into the city.

The basis of this system now exists; for the roads have the rails, wires and powerhouses; all that would be required is the rolling stock and train crews.

This would add greatly to the revenues and profits of these roads at relatively small additional investment or expense.

Linking the trolley freight system with the public markets would practically establish an overnight freight service from farm to market within an area of 100 miles of Cleveland.

Switches into the public markets would obviate the necessity for expensive terminal facilities.

This trolley freight system would be in the nature of an express service and should be justly paid for at rates higher than those for steam railroad freight service.

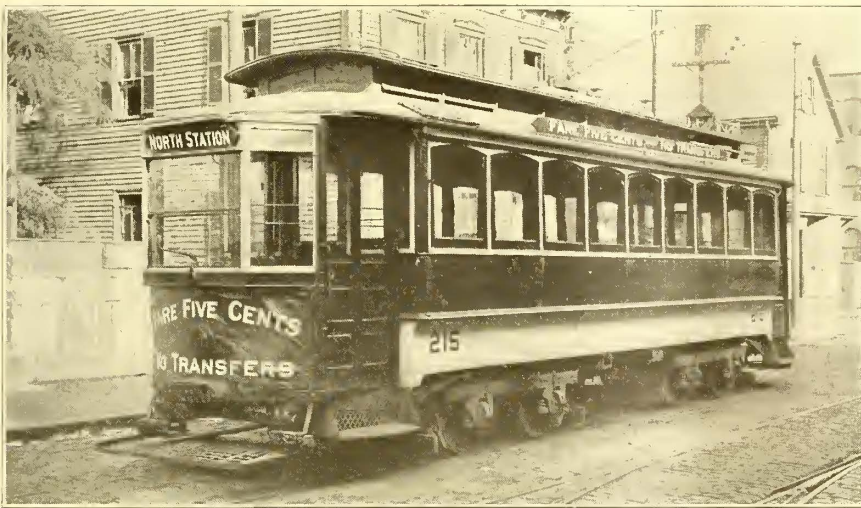
## Seven-Cent Fare Planned for Springfield

Clark V. Wood, president of the Springfield (Mass.) Street Railway, announced on Sept. 8 at a meeting of the City Council that a 7-cent cash fare with a 6½-cent ticket rate and a special rate of 10 cents would be established between the center of Springfield and Chicopee in the near future if the approval of the Massachusetts Public Service Commission was secured. The present 6-cent fare will be eliminated, but the zone system will be retained.

Mr. Wood informed the Council that more than 50 cents of every dollar taken in by the company now goes to labor and that the recent 32 per cent increase in wages granted by the arbitration board of which H. B. Endicott of Boston was chairman will add about \$600,000 to the yearly operating expenses of the company. Upward of \$200,000 a year in revenue is also taken away from the company by jitney competition, which is untaxed and which operates only in the rush hours or when travel is fairly heavy. By curtailing or eliminating service on various unprofitable lines it is hoped to reduce increased revenues required to, \$450,000 a year. Mr. Wood pointed out that jitneys cannot handle the street railway traffic without unendurable congestion.

## Chicago Rehearing Begun

Arguments on the motion for a rehearing in the Chicago (Ill.) Surface Lines rate case were begun before Judge E. S. Smith in the Circuit Court of Sangamon County at Springfield, Ill., on Sept. 9. The first day's session was taken up by the discussion of Chester E. Cleveland, special corporation counsel for Chicago. He contended that the ordinance contract between the city and the company is binding and cannot be changed by the State Utilities Commission; that the company cannot depart from some of the obligations of the contract without surrendering all its ordinance rights; that the State Commission has no authority to modify a contract; and that the commission had no legal right to increase rates of fare without making full inquiry into the reasonableness of the rates. The city also proposes to insist that the surplus earnings of the company under the 7-cent fare be impounded pending the outcome of the present hearing.



BOSTON'S FIVE-CENT CARS ARE PLAINLY MARKED

the railway by the city would spell only one thing—deficit. Unless a business can pay its way Mr. Drummond declares it must be given up. It cannot be supported by compulsory contributions by persons other than those who use its product. In conclusion he says the decision must rest with the public. The employees will not decide the question, and the company cannot decide it. Postponement and side stepping will not solve these pressing questions. Talk will not do so. The people having been informed must decide and act on their own initiative. In conclusion the City Attorney says:

The final responsibility as to all these matters, of course, rests with the Public Service Commission. The Council may decide to leave the whole matter to the commission. It can refuse to do so, or it can consent to confer jurisdiction upon the commission to make the investigation, and to authorize the increase, if the facts of the case seem to warrant or require it. My office at the present time, as I understand the matter, is neither to advise nor to suggest any specific action. It is merely to advise the Council and the public generally as to the general condition of affairs, and to amplify the comment that I made at the invitation of the Council on the occasion of its recent meeting. This I have endeavored to do.

ing distance in many cases of their destinations, and are expected to some degree to lessen the volume of traffic handled on the tunnel line under Dorchester Avenue. So far the patronage of the initial North Station-Franklin Street line has been unsatisfactorily light.

## Interurbans Urged for Transporting Produce

Widespread use of interurban trolleys for transporting farm products to city consumers is urged in the report of the special grand jury which has been investigating the food situation in Cuyahoga County, Ohio. The investigators find that much food goes to waste in the territory surrounding Cleveland because farmers have insufficient means of shipping their products. The report points out that development of food traffic would benefit the electric railway as well as the farmers. It says in part:

The present trolley system is only being used about fifteen hours in a day at the present time, and largely for passenger service. The remaining nine hours could



## Transportation News Notes

**Lowell Fares to Be Reduced.**—The trustees of the Eastern Massachusetts Street Railway have voted to establish a ticket rate of 6½ cents at Lowell, Mass. Sixteen rides will be sold for \$1. The flat fare will remain at 10 cents for the present.

**Milford & Uxbridge Wants Higher Fare.**—The Milford & Uxbridge Street Railway has petitioned the Public Service Commission of Massachusetts for authority to increase its fares by 1 cent. The present tariff is a combination of 6-cent and 7-cent units.

**Middlesex & Boston Fare Increases Suspended.**—The Massachusetts Public Service Commission has suspended the new fare schedule proposed by the Middlesex & Boston Street Railway pending a public hearing on Sept. 16 to consider the necessity of the increase. A 10-cent fare unit is desired by the company.

**Centralia Doing Better.**—The North Coast Power Company, operating the electric railway between Centralia and Chehalis, Wash., has increased its service materially, adding several new cars to the run and improving the schedule. The city ordinance designed to put an end to jitney traffic has been put in effect, and the company reports a big increase in traffic since the suspension of the jitanes.

**Eight Cents at Youngstown.**—Announcement was made on Sept. 5 that the rate of fare on the local line of the Mahoning & Shenango Railway & Light Company in Youngstown, Ohio, would be advanced to 8 cents on Sept. 15. Although there was a deficit in the stabilizing fund on Sept. 1, the increase was not made at that time, as might have been done under the company's franchise, which provides for a service-at-cost system.

**Six Cents Asked for Richmond.**—The Virginia Railway & Power Company on Sept. 2 petitioned the Common Council of Richmond, Va., for permission to charge 6-cent fares with 2 cents extra for each transfer. The petition was referred to the streets committee for action. The company seeks to establish a flat 6-cent fare, with school and work tickets abolished. The Council early this year authorized a straight 5-cent fare to the general public, work tickets at the rate of six for 25 cents, and special tickets for school children.

**Arsenal Workers Must Pay More.**—The Tri-City Railway, Davenport, Ia., has announced that it will raise the fare paid by workers in the United States Arsenal at Rock Island, Ill., from \$2 to \$2.80 for a book of forty

tickets. This will mean a rate of 5.6 cents per ticket as against the present 4-cent rate. The company rejected an offer made by the arsenal officials for a 5-cent fare. The arsenal fares were not raised at the time of the increase recently allowed by the Public Utilities Commission of Illinois.

**Asks Eight Cents in Aurora and Elgin.**—The Aurora, Elgin & Chicago Railroad, Aurora, Ill., has applied to the State Public Utilities Commission for an increase in fares from 6 cents to 8 cents on the city lines of Elgin and Aurora. The petition does not affect interurban lines, which are now operating on a 3-cent basis. In support of the petition, it is declared that for the year ended June 30, 1919, the gross operating revenue of the company was \$250,161 and the gross operating expenses, exclusive of taxes, \$240,462. No date has been set for the hearing.

**Wilmington Wants Eight Cents.**—The Wilmington & Philadelphia Traction Company, Wilmington, Del., has announced that it will apply to the City Board of Public Utility Commissioners for permission to raise fares from 6 cents to 8 cents. The company's decision to ask for higher rates comes as the result of a wage advance of 10 cents an hour to its employees. The carmen, who had threatened to strike unless they were granted higher pay, recently accepted the company's proposition for a 10-cent advance with time and a half after ten hours.

**Six-Cent Fare Extended in Spokane.**—The Public Service Commission of the State of Washington has extended until Dec. 2, 1919, its order of April 9 last, granting the Washington Water Power Company and the Spokane & Inland Empire Railroad, which operate in Spokane, permission to charge a 6-cent fare. The commission's original order has been extended twice before owing to delay encountered in the merger of the two companies. The property of the Inland company is to be sold on Nov. 1. Mayor C. M. Fassett recently protested to the commission against allowing an extension for more than one month beyond that date.

**Would Refuse Seven-Cent Fare.**—Retention of the present 6-cent fare is recommended in the report of Frank H. Booth, special master in chancery, who has been taking testimony on the application recently made by the San Antonio (Tex.) Public Service Company for a fare of 7 cents. The company was granted a 6-cent fare by the courts last year in the face of objections by the city. It now seeks an injunction restraining the city from enforcing an ordinance passed in 1918, limiting the rate of fare to 5 cents. Mr. Booth holds that the court has no jurisdiction in revising rates prescribed by act of the Legislature or City Council. Judge Duval West of the Federal Court, to whom the report was submitted, is expected to announce his decision within a few weeks.

**Three Cents a Mile on California Road.**—The Railroad Commission of California has issued an order granting the Oakland, Antioch & Eastern Railway, Oakland, Cal., increased fares. The new rates will put the fares of the electric railway on a parity with those of the Federal roads operating in the same district, insofar as they apply to the one-way rate, which is 3 cents a mile. The company will continue to issue week-end round-trip tickets at rates considerably lower than those in effect on the Southern Pacific Railroad. It is expected that the new rates will yield about \$22,100 additional revenue. It was shown at the hearing that the company's payroll had been increased 72.97 per cent since 1916, and that material costs had increased 57.7 per cent in the same period.

**Fare Hearing Put Off.**—Petition for increased fare on the East St. Louis-Belleville line of the East St. Louis & Suburban Railway, which was scheduled for a hearing before the Public Utilities Commission of Illinois on Sept. 4, has been postponed indefinitely, pending a decision by Federal Judge English on the application by the company to restrain the Attorney General of Illinois and the State's Attorney of St. Clair County from enforcing the 2-cent a mile maximum rate for interurban railways. A decision on the petition for an injunction is expected to be handed down from the United States District Court at Danville, Ill., within thirty days. Should the injunction be granted, fares in East St. Louis will not be affected, but rates on all interurban lines will be increased.

**No Charge for Retransfer.**—All transfers between surface lines of the Brooklyn (N. Y.) Rapid Transit Company will be made on the basis of a 2-cent charge for the first transfer issued and without an additional charge of 2 cents for a reissue transfer. This policy is in accordance with an agreement just reached between the company and the Public Service Commission. The commission explained that the company had made a wrong interpretation of the order of July 17 permitting a charge of 2 cents for transfers, and that the intention of the commission at that time was that the company should make no charge for retransfers. Investigation by the commission has shown that the company had been charging for retransfers. As a result, it is said, passengers were charged not only 7 cents but in some cases 9 and 11 cents. The company will at once proceed to put into effect the necessary orders to prevent conductors from charging for a transfer on a transfer.

**Six-cent Fares in Effect in Birmingham.**—A 6-cent car fare went into force in Birmingham, Ala., on Sept. 4 under the agreement with the City Commission referred to in the issue of this paper for Aug. 30, page 454. The increased rate of fare was approved by the State Public Service Commission and by Judge William I. Grubb



of the United States District Court. The 6-cent fare applies on all of the lines of the Birmingham Railway, Light & Power Company within the old 5-cent limits. The same transfer privileges are retained with the 6-cent fare. Injunction proceedings which were filed to restrain the collection of the 6-cent fares, were called before Judge Hugh A. Locke, of the Chancery Division of the Circuit Court on Sept. 4, but the hearing was put over to Sept. 15. The increased fare met with little or no protest on the part of the public during the first day of its collection.

## New Publications

### Making and Maintaining a Lawn

Department Circular No. 49 of the United States Department of Agriculture, Washington, D. C. Free.

This circular will be useful to electric railway men in providing material to place in the hands of shop men, substation attendants and others who are responsible for maintaining a creditable appearance of company grounds.

### Effective Business Letters

By Edward Hall Gardner. Ronald Press Company, New York, N. Y. 411 pages. Price \$2.

The wide ramifications of industrial and social life owe their binding force in no small degree to the use of the mails and the universal variety of transactions executed thereby. Not only the comparatively small number of unusually important letters written by the few men at the head of a business, or the form letters that are carefully composed for certain situations, but also the routine letters written by subordinates, are all alike representatives of the concern from which they issue and are capable all of becoming efficient units in the business. This is especially so with the man with nothing to offer but service. In the effective letter he will find an inexhaustible and faithful instrument.

The chief purpose of "Effective Business Letters" is to demonstrate by well defined principles how effective letters are to be written. It covers the complete range of business correspondence—orders, acknowledgments, sales, credits and collections. The volume is not a compendium of forms, but is a logically arranged guide designed to show conveniently the essentials of good form and proper appearance, as determined by the rules in use in a large number of leading business houses, the letters of which have been critically analyzed in an effort to present a compact body of principles that can be directly applied in any circumstances whether the daily output of letters represents only a few or a very large number.

## Personal Mention

### H. P. Harrsen Made Assistant General Manager

H. P. Harrsen has been appointed assistant general manager of the Michigan Railway and the Michigan Railroad by J. F. Collins, vice-president and general manager, and will make his headquarters in Grand Rapids, Mich. Mr. Harrsen will take over the duties of general superintendent, that title having been abolished following the resignation of C. E. Morgan. He will have charge of all operating and maintenance work. The chief engineer, the traffic manager, and the superintendent of equipment, as well as all traffic superintendents in the company's employ will report to him.

The establishment of the office of assistant general manager was made advisable because of the growing importance of Grand Rapids and the adjacent territory. This district will now have the benefit of direct representation by the management. Mr. Harrsen will also relieve Mr. Collins of much detail in connection with the operation of the system, which includes more than 350 miles of interurban lines as well as the city lines of Lansing, Jackson, Battle Creek, Kalamazoo, Owosso and Bay City.

Mr. Harrsen's connection with the electric railway industry dates back many years. For twelve years he was associated with Dr. F. S. Pearson as general manager and managing director of the latter's utility interests in Mexico and Spain. He returned to the United States in the fall of 1918. A portrait and a biography of Mr. Harrsen were published in the *ELECTRIC RAILWAY JOURNAL* for Oct. 12, 1918.

George L. Burr, at one time connected with the Stone & Webster properties, has been appointed a manager of the bond department of the Guaranty Trust Company, New York City. Mr. Burr was born on Aug. 29, 1889, in Phoenixville, Pa. He was graduated from Harvard College in 1910 and from the Civil Engineering School of Columbia University in 1912. He then entered the employ of the Interborough Rapid Transit Company as a draftsman, which position he held until he went to Keokuk, Ia., with Stone & Webster. In May, 1913, he was appointed manager's clerk of the Houston Electric Company and Galveston-Houston Electric Railway. In January, 1914, he was appointed secretary to the assistant district manager of Stone & Webster in Texas, with offices in Dallas, Tex. In October, 1916, he joined the bond department of the Guaranty Trust Company. He became assistant manager of the bond department in July, 1918.

James D. Mortimer, president of the Milwaukee Electric Railway & Light Company and the North American Company, is the subject of an article, illustrated with a portrait, in the September issue of *System*. The article speaks highly of Mr. Mortimer's fairness in dealing with his employees, a majority of whom are on a profit-sharing basis. The writer attributes Mr. Mortimer's success in handling a number of large businesses to his ability to concentrate his entire attention upon each new piece of work and to dispose of it without hesitation.

Otis R. Hill, chief inspector of equipment and rolling stock for the Fort Wayne & Northern Indiana Traction Company, Fort Wayne, Ind., has resigned to accept a position with the Mahoning & Shenango Railway & Light Company, Youngstown, Ohio. Mr. Hill was first employed by the company in Fort Wayne in the capacity of general foreman of the Chestnut Street shops in 1913, having gained preparation for this position through long service with the Illinois Traction Company at Decatur, Ill., and the Chicago City Railway, at Chicago. He continued in charge of the shops of the Fort Wayne company until August, 1917, when he entered the coast artillery service, being commissioned as captain. Captain Hill was sent to France in December, 1917, and participated in many of the major battles from that date until the signing of the armistice. He was mustered out of the service in December, 1918, after a year's very active service overseas, and returning to Fort Wayne was re-employed by the company as chief inspector of rolling stock and equipment. The Fort Wayne & Northern Indiana Traction Company has not as yet appointed a successor to Mr. Hill at Fort Wayne.

## Obituary

Josiah Quincy, chairman of the Boston Transit Department and the third of his name to have served as Mayor of Boston, died at Boston on Sept. 8. Mr. Quincy was long active in Democratic politics in Massachusetts and was assistant Secretary of State during Cleveland's Administration. He was born at Quincy, Mass., in 1859, was educated at Harvard College and the Harvard Law School, and for many years was a member of the Boston Transit Commission and otherwise active in public life.



# Manufactures and the Markets

DISCUSSIONS OF MARKET AND TRADE CONDITIONS FOR THE MANUFACTURER,  
SALESMAN AND PURCHASING AGENT

ROLLING STOCK PURCHASES

BUSINESS ANNOUNCEMENTS

## Aluminum Conductor Market Firm with Large Sales

Wire Quoted at 37½ to 38½ Cents per Pound F.O.B. Manufacturer's Works, Depending on Size and Quantity

The price of aluminum ingot is firm at 33 cents per pound f.o.b. manufacturer's works. Aluminum in the form of wire for electrical conductors varies with the size of steel wire, quantity, etc. It also varies with the size of steel reinforcement, it being understood that most of the track feeder circuits and high-tension transmission lines now using aluminum employ a composite cable, the center strand or core being a high-grade galvanized plow steel and the outer strands aluminum.

The price of aluminum wire may be quoted at approximately 37½ cents to 38½ cents pound f.o.b. manufacturer's works, depending on size and quantity. The composite price, including the price of steel, depends entirely on the relative cross-section of both metals. The principal manufacturer of aluminum electrical conductors reports a firm market with several large sales, both domestic and foreign.

## Railways in Market for Electric Heating Equipment

Advance Orders So Far Better Than for a Number of Seasons—Porcelain Advances 15 Per Cent

According to reports received, the article which appeared in the July 5 issue, advising the purchase of heater parts for repair purposes, had its effect upon master mechanics and shop superintendents to the extent that a great number of orders have been filled. Those who were fortunate in placing their orders early will have escaped an advance in heater prices which manufacturers expect will be made in the near future. This is based on the report from the factories advising that the price of porcelain has been advanced 15 per cent and that additional increases may be made from time to time depending upon labor conditions.

It is learned from at least one manufacturer that advance orders this year have been better than at any time for a number of seasons. Reports indicate that business picked up considerably after the first of the present year, and that sales for the first six months of 1919 are greater than those of the corresponding period in 1918. Although no prediction is made on future business, a great many orders are looked for from the sale of one-man cars. Costs, of course, are higher than in

1918 and the tendency is for higher prices, as the production per man is not nearly so great as formerly. The prices of many products are only 50 per cent higher than pre-war prices, but a revision upward is expected at any time on account of the increase in price of porcelain, previously announced. Deliveries are fair and the heater manufacturers are in a position to give prompt attention to all orders secured at this time.

Some sales for trial purposes are reported, but these do not amount to a large volume except where a new heater is placed on the market, and in this case most of the sales are of this kind.

At other times, however, there are few cases of experimentation excepting with the thermostatic control. Deliveries on this product continue to be good.

One company advises that within the past 90 days it has placed 350 electric heater equipments with large railways in Eastern territory, and that orders for 75 thermostatic control equipments have been received from the same railways. Repair part stocks are in good shape and a considerable volume of business may be placed before cold weather sets in, although many companies have been forehanded in placing their requirements for maintenance repairs before this time.

## Waterwheel Market Strong and Steadily Improving

Reports from Manufacturers Show Satisfactory Business This Year and a Promising Future

Information has been received from several waterwheel manufacturers regarding the condition of the market as they find it. With but one exception they all are of the opinion that the market for the year to date has been, and the present market is, in a satisfactory condition. In some cases the average of sales for the first six months of the present year has been about the same as for each of the last five years. These sales have been and are now being well maintained and in one case were increased to 10 per cent over previous similar periods. Contrary to this rather general statement of prosperity, one manufacturer has found few inquiries and very little actual waterwheel business. During the first half year this concern manufactured for stock with a curtailed force.

At present the number of inquiries received is increasing steadily and shows a decided awakening interest among both large and small users of hydraulic prime movers. Sales resulting from these inquiries show a slight increase at the present time. In the one case where sales have not increased the cause was laid to the uncertainty of the general industrial situation.

The amount of waterwheel manufacturing capacity now being utilized varies from 30 per cent to nearly 100 per cent. This has even been exceeded in one instance wherein more equipment could be utilized if it were available. In another instance, where only one-half the shop is working, manufacturing is carried on for stock in the absence of new orders.

Excellent facilities and large capacity available for building waterwheels in some instances are responsible for

rather short deliveries. Depending upon the size and type of the unit, the time of shipment varies from one to nine months on standard equipment. The length of time required to make shipments seems to indicate rather clearly in several instances the exact condition of the market.

The outlook in general is considered satisfactory and a bright future is predicted. In particular, the Pacific Coast has been referred to. More hydroelectric development is in sight there at this time than in the four-year period just ended.

### MUCH WORK UNDER WAY

The passage of a national water-power bill should still further stir the market to an unprecedented extent, according to the opinion of more than one manufacturer. The fact that the only contracts that are coming through are those that are absolutely essential has been given as one cause for an outlook which is not too encouraging. According to the preponderating opinion, however, it is apparent that there is considerable essential work coming through. The essential nature of the project has now come to be asserted, in the case of the ordinary, every-day water-power development, in consideration of increasing coal prices, the scarcity and unreliability of labor, and with a view to the preservation for future generations of the coal supply, which it is already predicted will dwindle. The prevailing opinion holds out great hopes for the future once economic conditions in the country have become more normal and labor has become more stable and shows some degree of loyalty.



## Heavy Buying Exhausts Electrical Sheet Steel

Entire Production of 1919 Sold out and Orders Are Taken for Early 1920 Shipments at Prices to Be Set

The sale of electrical sheet steel for transformers, magnetic cores, motors, generators, etc., has progressed to such an extent that production for the remainder of the year has already been booked to entire capacity. Consequently word has gone out from the mills to book no more for 1919 delivery. This is going to leave some regular customers with short supplies, but with sufficient warning issued manufacturers of the sheets did not feel that they could keep their books open to accommodate timid customers. There are certain grades of steel, not so commonly used, on which deliveries have increased up to about nine weeks, and the tendency here too is to lengthen shipments.

One mill is booking orders for the first quarter of 1920 only at the prices which shall prevail at that time. There has been no price change for this commodity since March 21, but it is expected that in a few weeks this mill will be able to anticipate and quote a price on which it will book orders for early 1920 delivery. There is no assertion that there will be an advance, but the tendency is in that direction. The steel workers have declared a strike for Sept. 22 on the United States Steel Corporation, and they state it can be prevented only by a backdown by that corporation. So the chance for a rise in price is not an impossibility.

Word comes from one mill, however, that it is not selling electrical sheets for shipment next year, and it is not prepared to make any statement with respect to prices for 1920.

### Rolling Stock

Penna-New Jersey Railway, Trenton, N. J., is reported to be in the market for a number of cars.

Terre Haute Traction & Light Company, Terre Haute, Ind., has ordered twenty-five safety cars from the American Car Company.

Orange County Traction Company, Newburgh, N. Y., has placed an order with the Wason Manufacturing Company for two Birney safety cars.

Interstate Public Service Company, Indianapolis, Ind., plans the expenditure of approximately \$350,000 for equipping its line between Indianapolis, Ind., and Louisville, Ky. Up-to-date steel coaches will be placed in service and all old cars will be made over into chair cars and trailers.

Springfield (Mass.) Street Railway, has specified the following details for ten safety cars recently ordered from the Wason Manufacturing Company.

Number .....	10
Date of order.....	July 17, 1919
Date of delivery.....	Oct. 1, 1919
Builder of car body.....	Wason Mfg. Co.
Type of car.....	18 ft. safety cars

Capacity .....	35
Weight:	
Car body .....	8,930 lb.
Trucks .....	4,670 lb.
Equipment .....	1,900 lb.
Total .....	15,500 lb.
Length over all .....	28 ft. 3/4 in.
Truck wheelbase .....	8 ft. 0 in.
Width over all .....	8 ft. 2 in.
Rail to trolley base .....	9 ft. 9 1/2 in.
Body .....	All steel
Interior trim .....	Cherry
Roof .....	Arch
Air Brakes .....	G-E; C.P. 25
Armature bearings.....	Friction
Axles .....	Hammered Steel
Bumpers .....	3M No. 4 channel iron
Car signal .....	Faraday
Car trimmings .....	Bronze
Conduits .....	Alphaduct
Control .....	K-63
Couplers .....	Draw bar Flat iron
Fixtures.....	Curtain Supply; Rex rollers
Curtain .....	Pantasote
Signs .....	Hunter illuminated
Door mechanism.....	Safety Car Devices
Wheelguards.....	H. B. wheelguards
Gears and pinions.....	Nuttall
Hand brakes.....	Amer. Car (Drop handle)
Heaters.....	Consolidated truss plank
Headlights .....	Crouse-Hinds
Journal boxes.....	3 in. x 6 in.
Lightning arresters.....	Westinghouse
Motors, type and number.....	2 West, No. 506-A-2
Enamel .....	Inside hung
Registers .....	Sherwin Williams
Sanders.....	Gal. iron; Ohio Brass valve
Sash fixtures.....	Edwards
Seating material .....	Wood slats
Springs .....	Semi-elliptic; Feralun
Step treads .....	2 P. Catchers
Trolley catchers .....	U. S. No. 13
Trolley base .....	Wheels
Trolley wheels .....	Brill 79-B
Trucks .....	Brill Exhaust
Ventilators .....	Steel 26 in.
Wheels .....	
Special devices:	
Arthur power-saving recorder.	Railway
Utility thermostats	

### Recent Incorporations

Perry & Gulf Coast Traction Company, Perry, Fla.—Incorporated to construct a line to connect the towns along the gulf coast, about 40 miles. The route will include Hampton Springs, south to the Gulf of Mexico and the Steinhatchet River. Capital stock, \$500,000. Officers: Ellis Bartholomew, president and general manager; S. A. Greiner, treasurer; R. C. Flack, W. S. Forrester and E. E. Sadler, vice-presidents.

Davenport, Springfield & Southern Railroad, Belleville, Ill.—Articles of incorporation of the Davenport, Springfield & Southern Railroad were filed for record at Belleville, Ill., on Sept. 3. The company proposes to build electric roads from Rock Island, Ill., to Pinckneyville, from Pinckneyville to Belleville, from Decatur to Edwardsville, and from Benton to Murphysboro. The capitalization is \$100,000 fully paid. The incorporators all reside in Chicago.

Moore Haven, (Fla.) Railroad.—Recently chartered with a capital stock of \$50,000 to construct a line from Moore Haven to Ritta, Fla., along the western and southwestern shore of Lake Okeechobee, about 30 miles. It is reported that work will be begun immediately and will be completed by next spring. After this road is finished an extension will be built to Kissimmee. Among those interested are Capt. J. O. O'Brien, Moore Haven; B. F. Welles, Arcadia, Fla., and A. C. Clewis, Tampa, Fla.

### Franchises

Joplin, Mo.—Plans are being considered by the city and county officials of Joplin for granting a franchise to O. B. Witmer and his associates to construct and operate an electric railway system to Witmer Park, south of Joplin.

Union Traction Company, Anderson, Ind.—The Detamore power plant at Portland, Ind., belonging to the Union Traction Company of Indiana, (Anderson, Ind.) has been offered to the city of Portland for \$18,000. This purchase has been approved by the citizens of Portland and the factory owners, who have been demanding more light and power current.

Fort Worth, Tex.—E. P. Turner and associates of Dallas, Texas, has been granted franchises for the construction of two interurban lines out of Fort Worth, one to Denton, a distance of about 33 miles, and the other to Grapevine and Irving, to connect with the line now being built out of Dallas at Irving. According to Mr. Turner, the interurban lines will form a triangle, with the angles at Fort Worth, Denton and Irving.

### Track and Roadway

Oakland, Antioch & Eastern Railway, Oakland, Calif.—The Oakland, Antioch & Eastern Railway has applied for authority to build a spur track on Shafter Avenue, crossing Forty-first Street, to make a connection with the company's paint shop. The company also wants to cross the highway with a spur at a point 100 ft. east of the station of Bancroft.

Indianapolis (Ind.) Street Railway.—The Indianapolis Street Railway's board of directors has voted to accept an offer of the Union Traction Company of Indiana to sell for \$95,000 its tracks and rights from Fairfield avenue to Forty-Sixth Street in College Avenue, Indianapolis. The distance is a little more than a mile, and there are double tracks. A "Y" will be constructed at Forty-sixth Street for turning the local cars. The board directed that bids be received for the special work, which it was estimated would cost about \$15,000.

Cincinnati (Ohio) Traction Company.—Street Railway Director W. C. Culkins has approved the expenditure of \$44,762 by the Cincinnati Traction Company to complete the extension of the Sixth Street line over Meeker Street to the Hopple Street viaduct and over the viaduct to Beekman Street.

Oakville, Ont.—The survey has been completed for the route of the proposed hydro-railway line from Toronto to Hamilton. The line will closely parallel the Grand Trunk Railway from Toronto to Clarksons and then in a southerly direction to the eastern



boundary of Oakville. From the latter place the line will extend to Hamilton by a route north of Burlington, saving several miles over the present radial line. It is expected construction will be begun before the end of this year. F. A. Gaby, Toronto, is chief engineer of the Hydro-Electric Commission, 190 University Avenue, Toronto.

**St. George, Ont.**—A deputation from St. George will request the Hydro-Electric Power Commission to construct the proposed Hamilton-Galt radial through the village.

**Toronto (Ont.) Civic Railway.**—The ratepayers of Ward No. 7 have requested the city council to extend the civic car lines through the Runnymede-Annette district, taking precedent over extension along Bloor St. through the Runnymede-Jane district.

**Hershey, Pa.**—Announcement has been made by the Hershey Chocolate Company that plans are being arranged for the complete electrification of the company's private railroad, in connection with other extensive improvements and additions, which were financed recently through securities offered for public subscription.

**Dallas (Tex.) Railway.**—The City Commission of Dallas has ordered the Dallas Railway to reconstruct its tracks on Forest Avenue from Meadow Street to Second Avenue, using 103 lb. rails on wooden ties and concrete base. Bitulitic pavement will be laid between the rails.

### Power Houses, Shops and Buildings

**Iowa Southern Utilities Company, Centerville, Ia.**—The Iowa Southern Utilities Company has closed 100 contracts for electric power in Blakesburg, Ia., and will make a 12-mile extension of transmission line to give service there. The line will be completed December 1. It will run from a point north of Moravia, Ia.

**Public Service Railway, Newark, N. J.**—The Public Service Railway, Newark, N. J., has constructed a pay-as-you-leave terminal at the two Gloucester, N. J., shipyards for use under the new zoning system.

**Trenton & Mercer County Traction Corporation, Trenton, N. J.**—Flames on Sept. 3 caused a slight loss at the power house of the Trenton & Mercer County Traction Corporation, Trenton, N. J. The flames reached the roof. The blaze did not interfere with the service.

**Sistersville & Martinsville Traction Company, Sistersville, W. Va.**—The Sistersville & Martinsville Traction Company, formerly the Union Traction Company, has leased a building on Wells Street, Sistersville, which it will use as an office, waiting-room and repair department. The company's present quarters are inadequate for its needs.

### Trade Notes

#### Western Electric Changes

George Hull Porter, who has just been appointed railway sales manager of the Western Electric Company, was born in Danbury, Conn., in 1883, and received his education at the Mount Pleasant Military Academy in Ossining, N. Y. Since 1902 he has spent practically all of his time in the electrical industries, becoming a member of the Western Electric Company's organization in April, 1908, as a steam railway salesman connected with the Chicago office. Some time after he became Western manager of the railway sales department. Mr. Porter, in addition to being president of various railroad and electrical associations and chairman of civic societies and committees, has served on the staff of the Quartermaster General with a commission of captain. A. G. Nabors, who has been with the company since 1905, is now central district manager of pole line material. He was formerly at New York, Philadelphia and Pittsburgh. E. H. Waddington has recently been made Western district manager of the line material department. He is president of the St. Louis Electrical Board of Trade and joined the company in 1910. F. W. Swayze, who was first employed in the auditing department and has been in the company since 1904, is Eastern district manager of the line material department.

**Chicago Pneumatic Tool Company** announces the appointment of Fred Gehbauer, as special Navy Yard representative, with headquarters at the company's Philadelphia Office, 1740 Market Street.

**Dickey Steel Company, Inc., Woolworth Building, New York, N. Y.**, has been appointed sales representative for New York and Philadelphia districts of the Worcester Pressed Steel Company, manufacturer of electrical sheet steel.

**Duff Manufacturing Company, Pittsburgh, Pa.**, manufacturers of lifting jacks, announces the appointment of John Kopf as manager of its engineering department. Before joining this company, Mr. Kopf was with the Bureau of Aircraft Production, Dayton, Ohio.

**Chicago (Ill.) Pneumatic Tool Company** announces the removal of its Cincinnati office from the Mercantile Building to the Walsh Building, Pearl and Vine Streets, where a service station with a complete stock of pneumatic tools, electric tools, air compressors, oil engines, rock drills, and repair parts will be maintained.

**Ohmer Fare Register Company, Dayton, Ohio**, has recently leased and is now installing thirteen complete equipments on the cars of the Mahoning & Shenango Railway & Light Company, running between Youngstown & Warren, Ohio. The system of zone fare collec-

tion on this route is described on pages 327 and 328 of the Aug. 16, 1919, issue of this paper.

**National Conduit & Cable Company** has issued an estimated six months' income account for the period ended June 30, 1919, showing net sales of \$4,760,150 and costs and expenses of \$5,156,964, making the loss from operation \$396,814. The account also shows that this was reduced by \$62,066, which was itemized as other income, while the total loss for the period after the addition of taxes, interest, depreciation and other charges totaled \$643,296. This compares with a loss of \$394,468 for the corresponding six months of 1918.

**F. C. Hibberd** is visiting the United States in behalf of G. D. Peters & Company, Dean's Yard, Westminster, London, England. Messrs. Peters are among the leading electric railway manufacturing and equipment companies of Great Britain and have long held the European representation of Hale & Kilburn seating. Mr. Hibberd is looking into the availability of other American products for the foreign market and is also prepared to arrange for the manufacture and sale of British devices in this country. His headquarters are the New York office of Hale & Kilburn, 30 Church Street.

**Bonney Vise and Tool Works, Inc., Allentown, Pa.**, announces that Edward R. Mason, who has been relieved of active duty as Lieutenant-Commander of the United States Naval Reserve Force, has been made sales manager and will handle the sales of drop forgings manufactured by this company. Previous to Mr. Mason's entry into the Navy he was successively, vice-president, Porter & Berg; manager of the New York office, Electric Service Supplies Company; president of the E. R. Mason Company, Inc., and assistant general sales agent of the Ohio Brass Company, Mansfield, Ohio.

### New Advertising Literature

**Underfeed Stoker Company of America, Chicago, Ill.**: Circular on new type of Jones automatic underfeed stoker.

**R. Thomas & Son Company, East Liverpool, Ohio**: Circular on wire-stringing fixture using nail-assembled knobs.

**Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.**: Catalog No. 38, a sixty-four page illustrated publication which describes its small motors and generators.

**S. F. Bowser Company, Fort Wayne, Ind.**, has issued a folder on its leak-proof storage tanks. The leaflet can be folded to show one, two, three or four tanks for different kinds of oil.

**Locke Insulator Manufacturing Co., Victory, N. Y.**: Illustrated booklet on insulator design, testing and descriptions of the parts and use of all types of low-tension and high-tension insulators.