

# Electric Railway Journal

Consolidation of STREET RAILWAY JOURNAL and ELECTRIC RAILWAY REVIEW

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## The October Convention

The American Electric Railway Association will hold its annual convention at Atlantic City this year. The dates selected are

**Tuesday, Wednesday and  
Thursday,**

**Oct. 8, 9 and 10**

and there will be meetings of the affiliated associations at the same time and place.

In view of war conditions there will be no exhibits.

## A Challenge from the Rhode Island Company Section

IN THE FLUSH of victory after a remarkably successful campaign to organize a company section with a record-breaking charter membership, employees of the Rhode Island Company, Providence, R. I., have issued a challenge to other companies to try to beat their achievement. In order to give added force to this challenge the ELECTRIC RAILWAY JOURNAL will present an appropriate cup to the section which meets the terms of the challenge, for the present no restriction as to date being set. It is the hope of the editors, however, that the cup will be called for soon. There are many companies in the country which could furnish more than 200 charter members for a section if they went about it in the same spirit as that manifested at Providence. As we have pointed out before, now is the time to organize sections because if they are needed in times of peace they are more needed in times of war. The enthusiasm of the Rhode Island Company section needs to be seen to be appreciated fully, but if maintained it will furnish the motive power for many a patriotic movement. With true missionary zeal the new section wishes to see the good work spread. We hope it will not be disappointed.

## Pennsylvania Railroad Adds New Link in Electrification Chain

THERE was nothing particularly exciting in the inauguration of electric service on the Chestnut Hill branch of the Pennsylvania Railroad at Philadelphia. This is true both from the technical and transportation standpoints. While not exciting, however, the event was no less significant, as a moment's consideration of the matter will show.

In the first place, within a few days after the overhead construction was made "alive," the full passenger train service was in operation. There was no preliminary or probationary period of operation. As soon as the train crews could be "broken in" on their new duties they were given their trains and began their new work without ceremony or hesitation. Thus will be a large part of the spread of electrification throughout our country. This fact was illustrated by the lack of sensation when the St. Paul Railway announced last year that it would extend by several hundred miles the electrification on its transcontinental line.

The point in all this is that while heavy electric traction apparatus is by no means standardized and possibly never will be, it has demonstrated its reliability to such an extent that there need be and is no hesitation in the electrification of track which, from economical considerations should be so equipped. A further significant fact is that after several years of experience with the equipment on the Paoli division of its main line between Philadelphia and Pittsburgh, the Pennsylvania Railroad made only minor changes in rolling stock and overhead construction, when electrifying its Chestnut Hill branch. This is added evidence of reasonable permanency in design standards.

It is true, a number of minor changes were made as a result of a more thorough understanding of the operating requirements. These, however, in no way interfere with the interchangeability of rolling stock between the two local lines.

In many ways the Pennsylvania Railroad is directly and indirectly doing as much for electrification as any railroad in the country. The Long Island Railroad was one of the first important electrifications in the world and on this and the New York terminal of the line from the South, the Pennsylvania Railroad is having valuable experience with low-voltage direct-current electrification. The railroad is also greatly interested in the single-phase system. It has a large sum of money invested in the New York Connecting Railroad which, while it will be operated by the New Haven, can properly be considered a part of the Pennsylvania System. It has also financial interests in the Norfolk & Western



Railway where the single-phase transmission system, with polyphase motors on the locomotives, has been employed successfully for very heavy haulage.

Logically in line with the Norfolk & Western electrification the railroad is experimenting with a locomotive of the same general type, but differing in details, for its Altoona division on the main line. At the Philadelphia terminal the single-phase system with motors of series characteristics is working out well. Taken all together then, it must be granted that this great railroad system is doing much in and for electrification progress. Like the grapefruit tree on which can be found at the proper season fruit in all stages of maturity, so here we find at one end the Long Island electrification seasoned by many years of efficient operation and at the other the Altoona division locomotive, still subject to certain modifications before final adoption.

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### **Boston Relief Provisions Are Worthy of Enactment**

**A** TRULY remarkable bill—such seems to be the character of the Boston Elevated measure filed by the joint committee on metropolitan affairs and street railways of the Massachusetts Legislature. Not all the features are novel, but the old has been improved and the novel is progressive.

In considering the bill, which was outlined in last week's issue, we shall exercise our judgment in general along broad lines, for the details are more subject to change before enactment. The bill has two main objects in view—the rendering of adequate service at cost, and the exercise of public control over operation.

As for the cost-of-service idea, the plan of a flexible fare, variable at short intervals in accordance with the fluctuations of a reserve fund, is not untried. The Cleveland Railway operates upon this basis. The Boston plan, however, provides for two noteworthy changes. In the first place, the fare schedule would be neither limited nor fixed; the public trustees would be required always to have at least four grades of fare above and below that in force, and they might regrade the schedule or change the fare basis as they saw fit. Secondly, instead of requiring the company to carry a reserve deficiency until made up from higher fare returns, the State semi-annually through its taxing power would meet any such loss, subject to reimbursement from fares. These provisions make better allowance for future contingencies and afford more sound support to the credit of the company than, for instance, do those in the Cleveland plan.

The distinctly novel feature of the bill is the creation of a board of five public trustees, three appointed by the Governor and two by the Mayor of Boston. This body would do no less than assume for at least a ten-year period the managing and operating powers of a board of directors and the rate-fixing and service-regulating powers of the Public Service Commission. A bold move? Perhaps, but this is no time for half-way measures of relief. The Boston transit situation from a financial point of view demands potent measures, even if they are unprecedented.

Not that we believe the public trustees would because of inherent virtues secure any better results than

the directors and the State commission—most emphatically we say not. Blessed with the same flexible-fare plan and the same tax support, the existing bodies would accomplish as much as the trustees. But the public might be suspicious. They could be won over, but the public trustees would probably secure full public confidence more quickly than could a private board of directors. For the sake of time-saving in a critical period, therefore, the plan of public control deserves trial. A word of caution, however—the plan must be good in practice as well as in theory, and a \$5000 salary seems too small to attract trustees big enough for their jobs, if they are to give all their time to the work.

Should the continuance of the system of public control prove undesirable, the bill permits a return to private control at the end of ten years, or thereafter upon two years' notice. The service-at-cost plan, however, would not be abolished but would be carried out by the company under public regulation. Such a clause was to be expected. Any lack of provision for the future scientific determination of fares would be criminal folly on the part of the Massachusetts legislators.

The proposed bill seems fair to both stockholders and the public. The stockholders would, it is true, lose one-eighth of their return in the first four years, but perhaps full justice is not possible overnight in these days, no matter how desirable. The company's precarious financial condition would be remedied, and the public would have good service at a reasonable price. The measure represents constructive effort, and while some details might be changed to advantage the suggestion, to speak broadly, promises needed results if enacted into law.

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### **Electric Railways and the Thrift Stamp Habit**

**E**LECTRIC railways can do a great deal to interest their employees in the habitual purchase of thrift stamps by utilizing the several means of communication between the management and the men. Those companies that have organized company sections of the American Electric Railway Association have a splendid machine already at hand. The appointment of thrift stamp committees would be a logical step. Many companies have welfare departments, many issue publications primarily for employees, all companies have bulletin boards galore scattered over their properties, etc. All of these things can be utilized provided that one or more men in the organization has an overpowering conviction of the importance of this matter and is willing to let this conviction work itself out in natural channels. There is no doubt that many railway companies have worked out W. S. S. plans which meet their needs. For example, as noted in the news columns of this paper last week, the New York Railways and the other roads in New York City are working under the auspices of the national war savings organization. Stamps are being sold in general offices, employees' stores, recreation rooms, storekeepers' offices, etc.

The idea of utilizing conductors for the sale of thrift stamps have been advanced, but it seems to be impracticable. The conscientious conductor has enough to do now without adding to his burdens. Moreover, the number of places where stamps can be obtained is so great



that it would seem to be unnecessary to add to it. What is most needed is educational work to impress upon everyone the fact that it is not only a patriotic duty to purchase securities to finance this war, but that if it is not financed through loans it will be financed through taxation. The fact that educational work is needed is shown by the slowness with which the Third Liberty Loan has gone so far. As a nation we have not yet waked up to the fact that we are at war. Electric railway organizations should do their share and more than their share in awakening their country to the real situation.

### It Won't Hurt to Disclose Your Savings

**A**N ICEBOX is no good to an Esquimau, nor concealment of figures to a public utility operator. Quite recently we learned that a certain railway, by installing car-checking devices, had saved thousands of tons of coal and tens of thousands of dollars. When we suggested publication of these savings as an incentive to other railways, the manager raised his hands in horror and cried: "Please don't unless you want to queer our appeal for a higher rate of fare. The public would not understand that our other expenses have more than counterbalanced this saving." As he had shown us these savings in confidence we had to yield to him though we certainly did disagree with his line of reasoning.

Like objection has been raised to publishing the financial results of the skip stop. In this instance less objection is offered to mentioning the coal saving itself, since that is held to prove patriotic obedience to the orders of the Fuel Administrator. Yet the railway manager seems to believe that he can conceal the fact that the skip stop also produces platform savings and other economies incidental to higher schedule speed. Why he should fear to tell the truth in these days of public service regulation and open accounting can be explained only on the theory that the "cover-up" habit has been transmitted from the Dark Ages of public utility financing.

No request for higher rate of fare is going to suffer just because the railway has frankly shown that even the savings resulting from the skip stop, the safety car or other economy has failed to absorb other higher necessary operating costs. On the contrary, most regulatory bodies are so well supplied with engineering advice that they are far more likely to delay relief to those companies which cannot prove that they have been operated economically. But when each and every record of savings made in the face of desperate conditions is put before them, they would have to be prejudiced indeed to deny relief.

Therefore, we urge every electric railway in the land not only to disclose its savings for the information of other operators, but also to publish the same figures as arguments with its own public. Let the people realize that the conscientious electric railway is doing all it can, whether alone or in co-operation with the municipality, to keep operating costs down in order to make any necessary fare increase as reasonable as possible. "Truth is mighty and will prevail."

### Police Power Is Ample to Permit Utility Progress

The way ain't sunny, but don't you fret;  
Cheer up, honey, you'll get there yet!

**T**HIS is our message to electric railways in answer to the disappointing decision of the New York Court of Appeals in the Rochester fare case. The damage to electric railways in the Empire State is enormous, but it is not irreparable unless the public has lost all sense of fairness, to say nothing of self-interest.

To electric railways in most of the other states the decision is not discouraging, for in analyzing the peculiar legal conditions in New York the court points out the general principle that commission-made rates are intended to supersede casual statutory rates, and even franchise rates in the absence of a constitutional limitation. Thus the Rochester decision is not national in scope, and the many states which are not handicapped with defective or outworn laws can continue to dispense justice to deserving utilities.

The Rochester decision is important to the industry as a whole, however, for it serves to delineate a trifle more clearly some fundamental issues in rate-making, and to point out the crass stupidity of legislatures and the general electorate in handling vital issues by implication rather than express language. According to the court's opinion, published in abstract on another page, the regulatory law in New York discloses no intention of the Legislature to deal with franchise rates.

Furthermore, although it is said to be improper to decide now how far the Legislature might go in altering franchise rates, the court remarks that the Constitution by requiring the consent of local authorities for utility operation recognizes cities as *pro tanto* independent of legislative control, even if the basic law contains no express provision for the irrevocable establishment of franchise rates.

The lack of a clear wording of the law is no worse, however, than the lack of vision on the part of the Court of Appeals. What is the police power of the State? It is the right of the State to compel the accomplishment of what is good, what is just, what is best for the people. It is a reserve power, not limited or annulled except by unmistakable words. It is the power that has made possible child-labor laws, compensation acts and workmen's insurance. It is the power which permits progress.

Times have changed since the New York Constitution, in 1875, was amended to provide in general language for the "consent" of cities to utility operation. Regulation has come; the theory of State paramountcy in rate-making is generally accepted—even the Court of Appeals recognizes this. Why not then, in the absence of an express contracting away of the police power, recognize the right of society to modernize rate-making in New York?

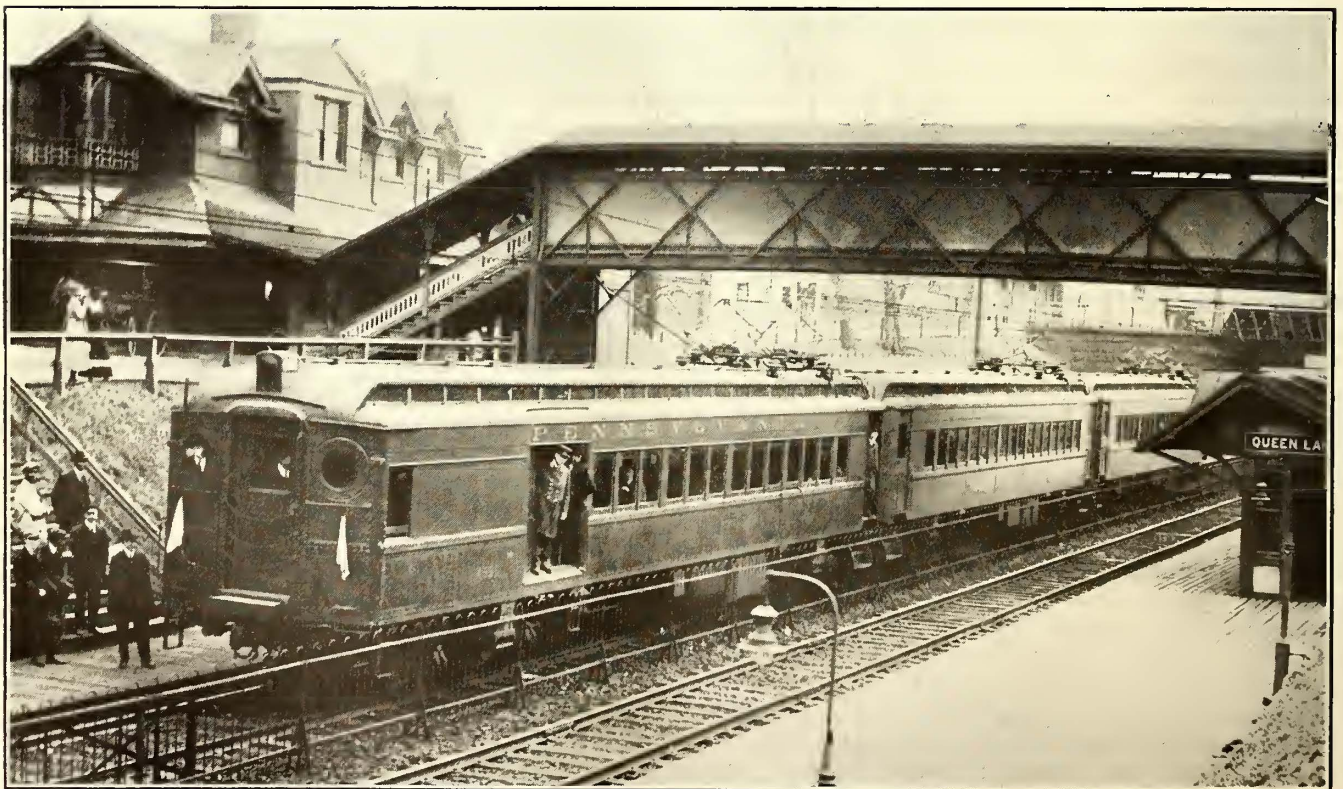
The New York commission law should be amended to provide for commission regulation of franchise rates. Such a law should be held valid. It will be, if higher judges recognize, as we are sure they will, the intent of the fundamental law to permit the state to develop in accordance with the spirit of the times when not actually forbidden, by its written word.





VIEW FROM SIGNAL BRIDGE AT NORTH PHILADELPHIA SHOWING TYPICAL METHODS OF CATENARY SUPPORT

*Characteristic Views on the Latest Electrification  
in the Quaker City*



FIRST SPECIAL ELECTRIC TRAIN ON CHESTNUT HILL BRANCH, PENNSYLVANIA RAILROAD





STATION AT NORTH PHILADELPHIA WHERE CHESTNUT HILL LINE BRANCHES OFF FROM NEW YORK LINE

## P. R. R. Extends Philadelphia Electrification to Chestnut Hill

Newly Electrified Branch Taps One of Best Suburban Sections of the Quaker City—Construction Shows that Overhead for Single-Phase Railway Lines Is Approaching Standardization—Outdoor Transformer Station a Feature of This Branch

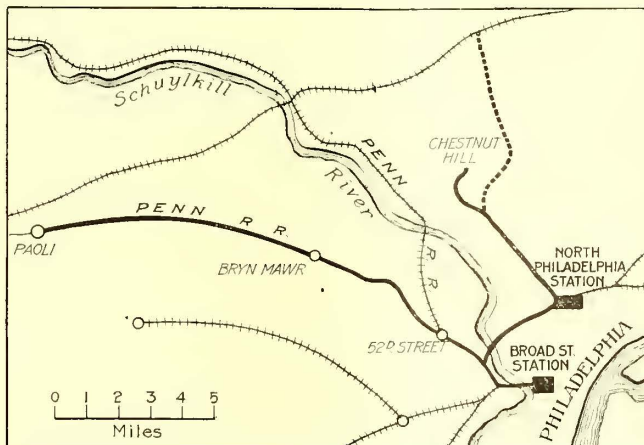
**A**BOUT three and a half years ago the Pennsylvania Railroad put into operation an electrified section 20 miles in length between Broad Street station and Paoli. Suburban service with multiple-unit cars only is given over this division, and the operation of the electric trains has proved to be very satisfactory. During the recent severe winter, in particular, the electrical equipment showed its capacity to handle traffic under adverse operating conditions. Soon after the completion of the Philadelphia-Paoli construction the electrification of the Chestnut Hill branch, 12 miles long between Broad Street station and Chestnut Hill, was begun. This work has now been completed and for the last few weeks the operation has been completely electric.

The Philadelphia-Paoli construction has been fully described in the *ELECTRIC RAILWAY JOURNAL*, particularly in an editorial article in the issue for Nov. 13, 1915, page 981, and in an arti-

cle by F. G. Grimshaw, then in charge of electric operation, in the issue for April 8, 1916, page 681. In general the Philadelphia-Chestnut Hill construction is similar to that of the earlier line, but there are a number of differences and these will be pointed out in the present article.

As from North Philadelphia to Chestnut Hill this line has only two tracks, whereas the Paoli section is a four-track line, the overhead construction is somewhat simpler between these two points. However, as the Chestnut Hill trains as far as North Philadelphia use the New York division tracks it was necessary to electrify a four-track line from West Philadelphia to North Philadelphia.

The twenty-two new cars, like the ninety-three older ones, are each equipped with two 225-hp. Westinghouse single-phase air-blast-cooled motors mounted on one truck. These are of a combined repulsion and series type, the repulsion



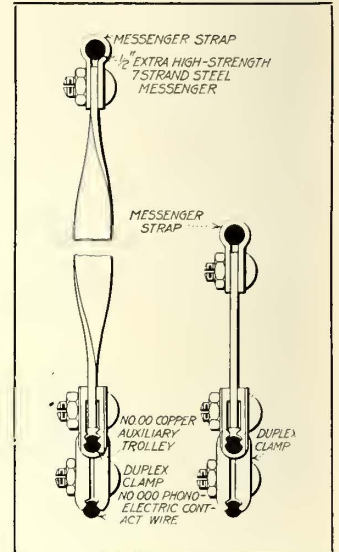
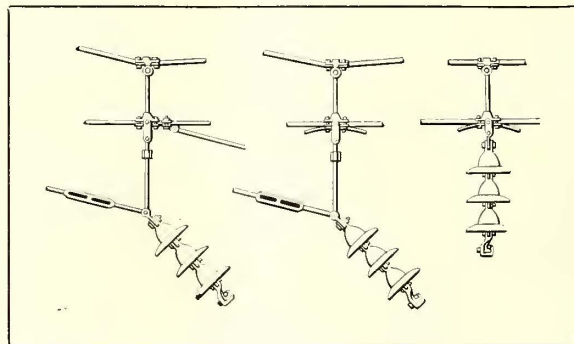
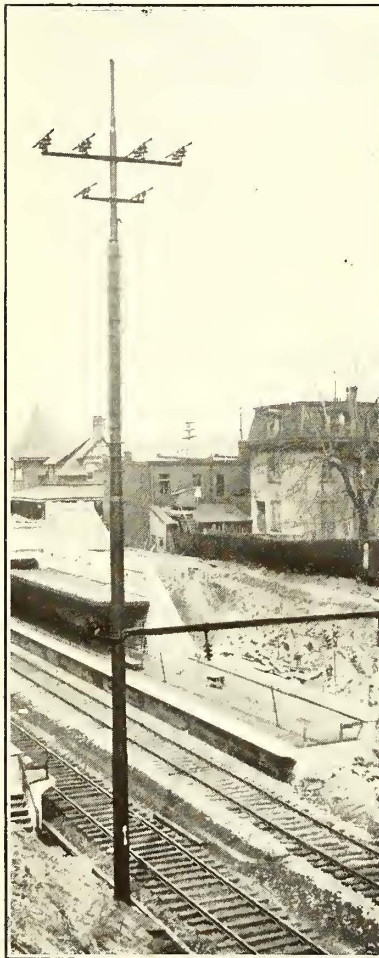
OUTLINE MAP OF ELECTRIFIED LINES OF PENNSYLVANIA RAILROAD AT PHILADELPHIA



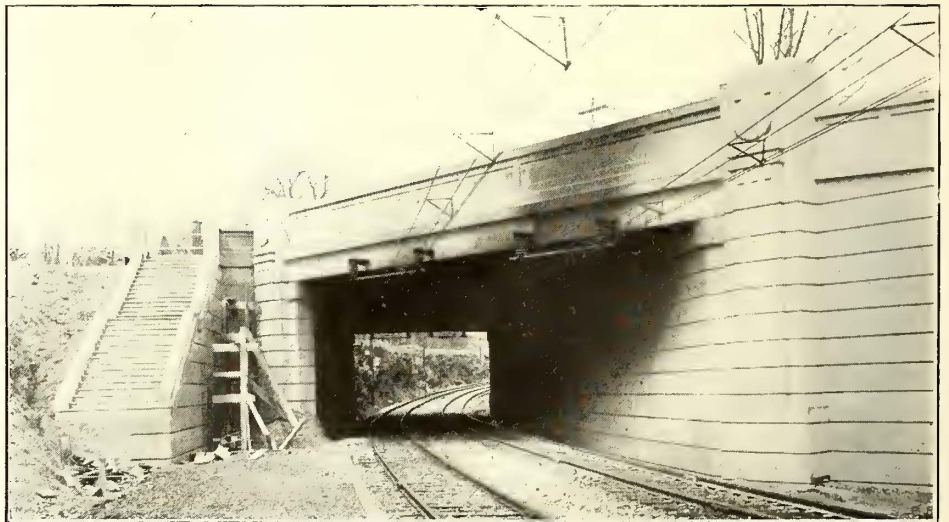
principle being utilized in combination with the series principle in starting, the series connection alone being used above a certain speed. No resistance leads are used in the armature, compensation for undesirable transformer effects being provided by the arrangement of windings entirely. Details of the motor theory can be found in the first article previously referred to. The motors on the new cars are the same as those on the older ones, but modifications have been made in the control and in the other auxiliary apparatus.

As can be seen in the simplified wiring diagram on the opposite page, when compared with the diagram shown on page 982 of the issue of this paper for Nov.

With the diagram is given a table showing the sequence of switch operation on the several controller positions. These may be briefly reviewed as follows: The motor starts with partial voltage from the transformer secondary and with auxiliary fields, main fields and armatures in series. The armatures are also connected to a part of the transformer secondary independently, giving an equivalent of the short-circuit connection in the earlier motor. This is the "inverse-fed" connection. From the third position on the switch *S*



DETAILS OF MESSENGER SUPPORT ON CROSS-SPAN CONSTRUCTION, AND OF LONG AND VERY SHORT STRAP HANGERS WITH SECTIONS THROUGH WIRES



NEW STATION CUT AT HIGHLAND AVENUE, WITH SPECIAL HEAVY OVERHEAD CONSTRUCTION IN FOREGROUND. CROSSING UNDER CHELTON AVENUE, SHOWING METHOD OF ANCHORING INSULATOR SUPPORTS IN CONCRETE OF BRIDGE

13, 1915, reactance is used in place of resistance in controlling the current in the motor circuits. This change results in a smaller energy loss during acceleration.

Another difference is in the omission of the line switch, the equivalent protection against failures of the high-tension apparatus being afforded by means of the air-operated pantograph in conjunction with the excess-current and the no-current relays. For this automatic operation of the pantographs relays are connected into the high-tension circuits through instrument transformers, one to cause the pantograph to be pulled down in case of excess current in the secondary circuit, and the other in case of failure of voltage on the line.

is open, cutting out this extra armature circuit, the main motor circuit and the auxiliary field circuit being fed from different sections of the transformer secondary. This is the "doubly-fed" connection. The preventive coils, which are indicated by the vertical looped lines in the diagram, are connected in various combinations on successive controller positions in such a way as to limit the current to desired values.

When the armature is operating with short-circuit the motor is operating in part as a repulsion motor, giving it good starting characteristics. This repulsion, or inverse connection, is used up to 15 m.p.h. and it permits an acceleration of the rate of 0.85 m.p.h.p.s. on level track. From this point on to the full-voltage



series, or doubly-fed, connection the acceleration is 1.1 m.p.h.s. Full speed is approximately 60 m.p.h. on level track.

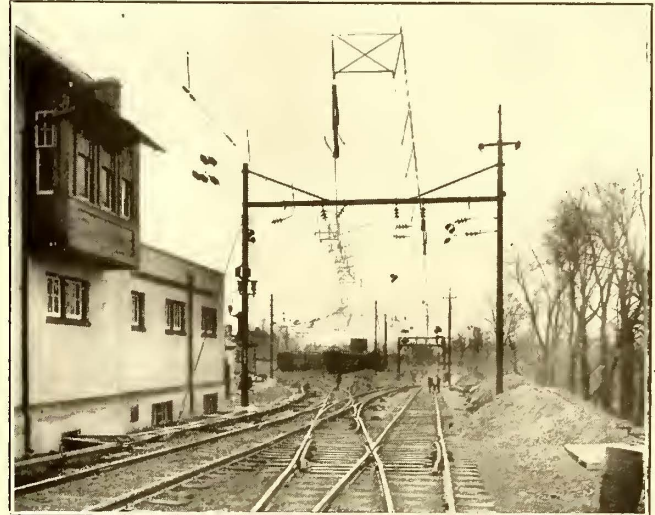
In the earlier cars the air compressor and the blower for cooling motors, transformers and preventive coils were driven from the same motors. In the new cars the drives are separate. The blower, which has a ca-

ing effect of wind blowing across the track, connect the two messengers. The contact wire is hung from the secondary messenger by means of bronze clamps.

The messenger wire is supported on insulators from overhead structures of several types, depending upon the characteristics of the respective parts of the line. Cross-catenary, bracket, or special lattice-truss cross



CHESTNUT HILL YARD SHOWING LATTICED POLES SUPPORTING CATENARY STRUCTURE



CHESTNUT HILL YARD AND MAIN TRACK LOOKING TOWARD NORTH PHILADELPHIA

capacity of 6000 cu.ft. of air per minute at 5½ in. static pressure, is driven by a 7½-hp. motor. The compressor, which has a capacity of 25 cu.ft. per minute against 100 lb. air pressure, is driven by a 5½-hp. motor.

In connection with the control equipment, for the purpose of simplifying the interlock circuits which prevent the possibility of damage through incorrect operation of switches, a drum-type interlocking switch is used rather than separate interlocks on contactors. This operates in a manner similar to the standard PK control and greatly simplifies the unit-switch construction. These interlock circuits do not appear in the simplified general wiring diagram printed below. All of the control apparatus is placed around the edge of the car for ease of inspection and maintenance.

Practically no change has been made in the transformers except that an improved insulation has been used so as to increase the resistance to moisture.

In the earlier cars the lighting circuit was taken from taps in the transformer windings. Now a motor-generator set, used also for battery charging, supplies lighting current at 32 volts. The output capacity of this machine is 638 watts.

Like that on the main line the overhead construction on the Chestnut-Hill branch is of the familiar single-catenary type. From a steel catenary messenger hangs a secondary copper messenger parallel with the track. Hangers of strap steel, twisted to minimize the sway-

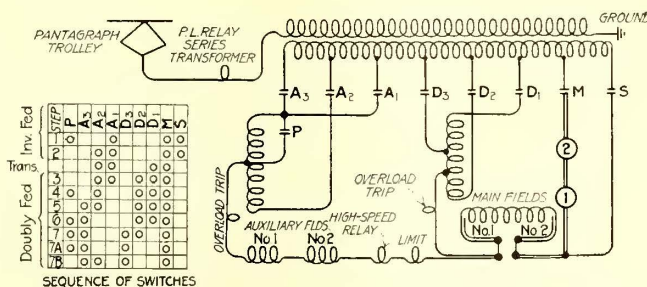
ing effect of wind blowing across the track, connect the two messengers. The contact wire is hung from the secondary messenger by means of bronze clamps.

The supports are used, depending upon the local requirements. Especial care was taken to design structures which would interfere with the views of signals as little as possible. Photographs have been reproduced to show characteristic methods of supporting the messenger wire.

Tubular construction with guys may be considered standard, but a variety of pole sizes was necessary in the interest of economy. Each pole was designed for its particular location, and butt diameters from 16 in. down to 9¾ in. were utilized. In one of the photographs is shown a very high pole with the butt of the larger diameter mentioned. The supports used on the double-track, section between North Philadelphia and Chestnut Hill are mostly of the bracket type, with the brackets, or crossarms, built up of 4-in. channels placed back to back. These are clamped close at the outer end and are spread out to surround the pole, being attached thereto by means of iron saddle clamps, one on each side, or forged steel bands. The poles are cross-latticed for stiffening. The bracket arms are braced by means of two steel sag rods. They

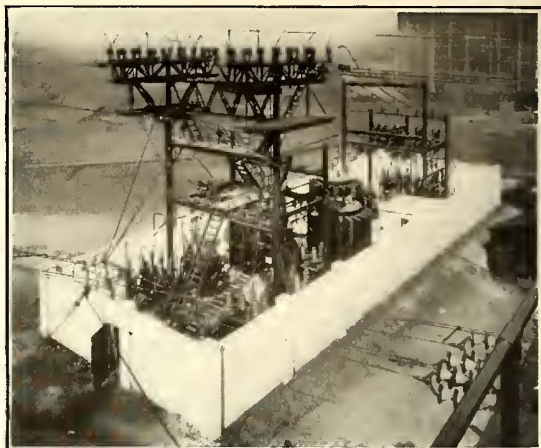
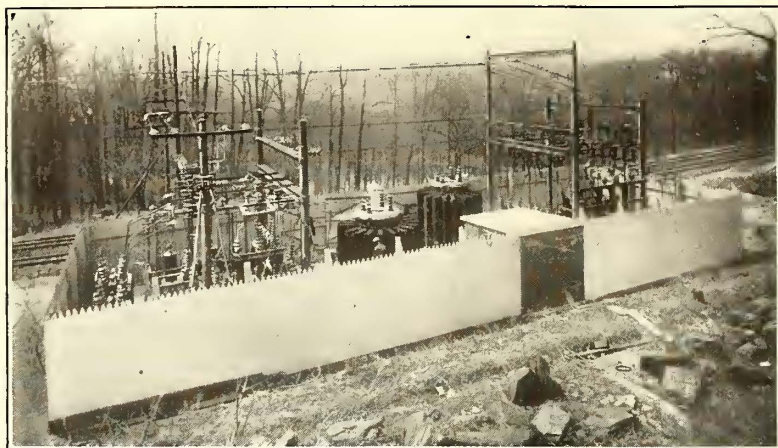
are extended on the side away from the track for the purpose of carrying two signal transmission wires.

To prevent swaying of the contact wire, on tangent construction, in heavy winds, a new steady brace has been developed. This consists of two wood stick insulators carried from the lower end of a rigid three-shell porcelain insulator clamped to the bracket



SIMPLIFIED ELECTRIC CIRCUIT DIAGRAM AND CHART OF SEQUENCE OF SWITCHING OPERATIONS





GENERAL VIEW OF ALLEN LANE TRANSFORMER STATION AND GENERAL VIEW OF NORTH PHILADELPHIA TRANSFORMER STATION

structure. From the lower end of the stick insulator, light metal rods are attached to the main messenger at the suspension insulator and to a clamp connecting the secondary messenger and the contact wire. These "steadies" as they are called are placed every three poles in certain locations and closer in exposed places to prevent swaying of the catenary in extremely high winds.

The main messenger is of 1/2-in. double-galvanized seven-wire strand. It is of extra-high-strength steel, the breaking strength being 27,000 lb. and the elastic limit 60 per cent of this. Elongation is from 4 to 15 per cent in 24 in. This wire was furnished by John A. Roebling's Sons' Company. The wire in the cross spans is of 3/4-in. strand, with nineteen wires, with the same general specifications.

In supporting the messengers three-shell suspension insulators, made by the Locke Insulator Manufacturing Company, similar to those used on the Paoli electrification are installed. A No. 00 grooved copper wire was used for the secondary messenger, clamped to the No. 000 grooved contact wire below. For the contact wire copper alloy (Phono-Electric) was used. Several drawings are reproduced to show the details of construction.

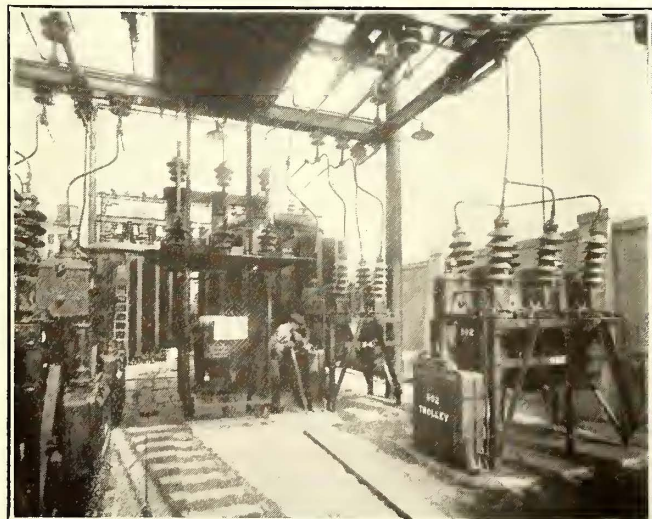
The section break used on the Chestnut Hill branch

as on the Paoli division is of the air type. This has been found to operate practically sparklessly.

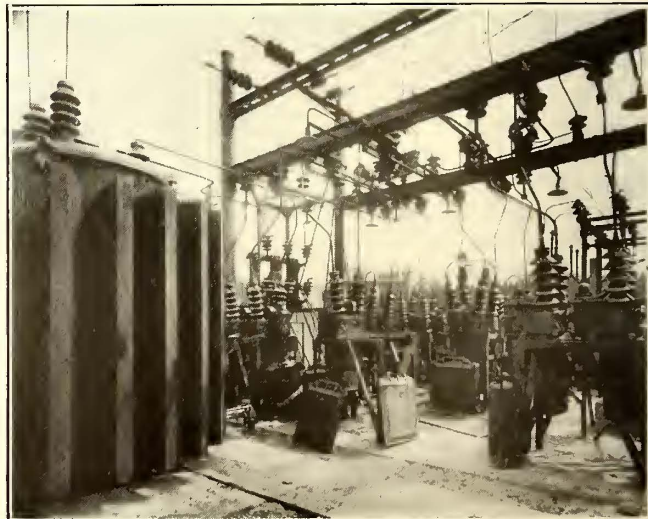
The transmission line wires are of aluminum and are carried on crossarms made of two angle irons, placed back to back, and attached to the poles above the catenary supporting bracket or other structure. The wires are carried on Locke pin-type insulators. At crossings under highway bridges the wires are carried overhead, not under the bridges as in the Paoli electrification. Restricted clearances make the location under the bridges impossible in many places and, while this is a more expensive construction it is easier to maintain the line when the overhead crossings are used. It also simplifies the matter of crossing foreign wires. At points of crossing streets and foreign wires special safety construction is provided at the insulators. Clamps are used to hold the wire, and plates are provided to take the arc in case of a break.

TWO OUTDOOR TRANSFORMER STATIONS ON THE CHESTNUT HILL BRANCH

Power for this electrification, like that for the Paoli section, is furnished by the Philadelphia Electric Company from its Christian Street power plant. The power is transmitted to the receiving substation at Arsenal Bridge at 13,200 volts, 25 cycles, and here the



INTERIOR OF NORTH PHILADELPHIA TRANSFORMER STATION LOOKING TOWARD 44,000-VOLT END



INTERIOR OF ALLEN LANE TRANSFORMER STATION LOOKING TOWARD 11,000-VOLT END



voltage is stepped up to 44,000. Three-phase-two-phase transformers are provided at this substation. The new load is normally carried on one of the phases and the Paoli load on the other of the two-phase circuit. This balances the load on the generators to better advantage. It will be remembered that special phase-balancing machines were required in connection with the Paoli electrification.

Two new 6000-kva. transformer stations have been provided, one at North Philadelphia, where the track branches from the line to New York, and one at Allen Lane, near the Chestnut Hill end. These new substations are of the outdoor type, in contrast to the indoor type used on the Paoli line. Power for the Philadelphia end comes partly from the West Philadelphia station, which also supplies part of the Paoli line. Photographs of the exterior and interior of both substations have been reproduced to show the general features of design, which are as stated briefly in the following paragraphs:

Each substation consists of three main sections. The first section contains the 44,000-volt apparatus, and is located at one end of the inclosure. The second section at the opposite end of the inclosure comprises the 11,000-volt equipment; while between these sections is the transformer and control section. The control equipment is housed in a fireproof structure at one side of the inclosure.

Two 44,000-volt transmission lines from the West Philadelphia substation enter the outdoor substation on a high steel structure. The feature of this is a group of Burke horn-gap switches which permit complete isolation from the high tension.

From these switches bare copper tubes or wires lead to a lower high-tension steel structure, thence to the electrolytic lightning arresters in series with horn gaps. From the arresters the circuits lead through the oil switches to the high-tension buses over the transformers. At the high-tension end of the inclosure are a potential transformer and an operating transformer for supplying switch operating power. The 11,000-volt end of the transformer station is provided with oil switches and lightning arresters like the 44,000-volt end.

On the switch structures the busbars are of copper tubing, but between structures solid or stranded copper wire is used. Both sets of buses are sectionalized in each transformer station, and in connection with the 11,000-volt oil switches provision is made to cut in resistance during the opening of the breaker.

#### DESIGN AND SUPERVISION OF CONSTRUCTION

The Chestnut Hill branch extension, like the Paoli line, was designed and the construction carried out by Gibbs & Hill, New York City, consulting engineers to the Pennsylvania Railroad.

The International Railway, Buffalo, N. Y., has placed in operation the first of its new all-steel interurban cars which were bought for the Buffalo-Niagara Falls line. These cars are being built by the G. C. Kuhlman Car Company. The total number to be supplied is forty. An illustrated description of these cars appeared in the issue of the *ELECTRIC RAILWAY JOURNAL* for March 3, 1917, page 378.

## Too Easy to Get Into the Union

**Union Membership Should Mean Special Ability—  
Discipline as Enforced in Boston by Joint Board  
—Promotion by Seniority Undesirable**

IN AN abstract on the report by John A. Beeler on the Boston Elevated Railways, published in the Feb. 9 issue of this paper, it was possible to summarize only Mr. Beeler's conclusions in regard to the equipment and corporate and financial conditions. He expressed also some interesting opinions on the labor situation and says that the labor union has possibilities which it does not realize. He continues:

"I am inclined to believe that it is too easy to get into the union. Practically the only qualification is employment by the company. Union labor has a great opportunity to develop a brand of quality that would be sought after by the public and by the companies; to make the word 'Union' synonymous with efficiency, courtesy, and good salesmanship, to create a demand for the particular product which they are able to supply. If this were done, representatives of the union would less frequently visit the office of the manager to present a brief for the petty shortcomings of some careless or incompetent workman. Instead, in the conduct of its internal affairs and by the application of its own standards of membership, the union would itself go far to prevent such occasions from arising.

"The company can help in this matter by doing everything in its power to remove all basis for the fear that discipline is being used as a means of undermining the organization. The important thing is that management and men should be able to meet on a common ground of co-operation in the work of the company, and that both should realize that courtesy, good nature and loyal, efficient work really pay. The men are naturally inclined this way, and only systematic effort on the part of the management and of their own leaders is needed to produce the desired results.

"When all employees are brought to a keen realization of the fact that they are part and parcel of one big Boston Elevated family better results are bound to accrue. The hearty co-operation of all the employees is as important to the success of the enterprise as any other one thing. Until it can be secured, neither men, company, nor public will enjoy the full benefits obtainable from Boston's transportation system.

"It is now generally conceded that organization of capital and of labor are both desirable if rightly used. Capital has perfected business organizations that are wonderfully effective. The most successful of these aim at maximum efficiency in the manufacture and marketing of the product and the improvement of its quality. By wise salesmanship, attractive advertising and the employment of affable, courteous representatives, demand is increased and the scope of operations enlarged.

"The methods which have proved their worth for capital are just as desirable for labor. It has been said that an impecunious street railway is a poor public servant. It is just as poor an employer. The men can in no way do more to further their own ends in the present instance than by doing everything in their power to help the company serve the public well and to conduct its affairs in the most efficient way. It is



perfectly natural and right for employees to desire to obtain full value for the work which they do, and that is why they have organized, but this is only the first step. The men will not gain the full benefit from the organization unless they use it as a means of improving the quality of their product and the effectiveness of the part which they play in the company's business."

#### DISCIPLINE AS ENFORCED BY A BOARD

Discussing the company's method of enforcing discipline by means of a discipline board, Mr. Beeler says: "This board is one of the unique features of the management. It is composed of four members appointed by the president and handles all cases involving labor disputes. The function of this board is to see that fair and just methods are uniformly practiced without fear or favoritism. Cases are brought to the attention of the board only in the event of the failure of the department heads to arrive at a satisfactory settlement with the employee.

"Discipline is adversely affected," Mr. Beeler goes on to say, "if the time elapsing between an offense and the decision of the board is not brief, as prompt decisions have great value in matters of this nature. In the meanwhile the employee involved should be suspended.

"Discipline is not what it should be," according to Mr. Beeler in another part of the report. "This lack is especially noticeable in carhouses removed from division headquarters. In some instances the division office is not even located at a carhouse. The division superintendents carry all the authority, and the station masters, who are in constant touch with the men, are little more than clerks. The division chief inspectors, who are virtually assistant superintendents, are also located at division headquarters, thus concentrating the authority that should be more widely distributed.

"There is opportunity for the improvement of cooperative action between the minor officials of the various divisions, when they realize that division lines should never stand in the way of the welfare of patrons, the company's interests or the responsibility of the employees. Opportunity also exists for marked improvement in the *esprit de corps* within the divisions. If it were possible for the officials and men to understand and see each other's side of the various phases of the operations, by giving closer attention to these matters, better results would follow, benefiting both men and management."

Mr. Beeler also points out that "the organization of the rapid transit lines is much better adapted to the maintenance of discipline than that of the surface lines, since the district supervisors, being located at the operating stations, should be in close touch with the men. Having the necessary authority and disciplinary power, they can command respect and obedience. The full measure of this is not in evidence at present, since the supervisors do not keep in sufficiently close personal touch with the men."

#### PROMOTION BY SENIORITY

Discussing the company's agreement with the union in regard to promoting men according to seniority; Mr. Beeler thinks that "the rule undoubtedly works to advantage for the platform employees. Here all men of a

given classification are engaged in the same kind of work, and it is merely justice to allow the senior man in service to have the pick of the available runs. In the shops and other departments the seniority rule does not give the same excellent results. The character of the work in different classifications differs so widely that promotion by seniority places men in positions that they are not qualified for. The tendency is to make the individual a 'Jack of all trades and master of none.' On this account the company is unable to give the same remuneration it would if the men could receive consistent training along one general line of work. True, a probationary period is provided for, but it is often difficult or distasteful to prove that a man is incompetent. To do this would require so much of the time of those in charge that their energies would be dissipated from the legitimate channels of their work.

"An instance will illustrate the condition. A man, for many years a carhouse foreman and shifter, in which position he did well, bid on a vacancy as pitman and was appointed. He was not adapted to the work and proved inefficient, but seniority required giving him a trial. Under the circumstances, it was difficult to prove him incapable, although he was plainly unfitted for this work. In spite of this fact he has twice since then been promoted, and is now in the highest paid class.

#### MERIT OR QUALIFICATION SHOULD GOVERN PROMOTIONS

"The remedy for this condition is to abrogate the seniority rule so far as it affects transfer from one craft to another, and provide for promotion by merit or qualification. This would not only benefit the men in the shops and carhouses, but be to the advantage of the platform men, who frequently have to operate equipment that has not been carefully adjusted."

In another section of the report on the subject of jitneys, Mr. Beeler claims that "one generally overlooked reason for jitney success that should be well noted by employees of street car lines is the fact that jitney operators are very largely working for themselves. To a certain extent they have in their own crude way studied the art of salesmanship. They are seldom surly or gruff. They want the money, and by various little acts of courtesy many of them have been quite successful. Affable and accommodating manners cost but little and mean much in the conduct of any business."

### Electric Locomotives Make Good Showing on Norfolk & Western

In the twenty-second annual report of the Norfolk & Western Railway, covering the year ended Dec. 31, 1917, the data of maintenance of steam and electric locomotives, covering repairs, retirements and depreciation, are given in terms of cost per 1000 tons hauled 1 mile. For the year 1917 this cost was 32 cents for the steam locomotives and 10 cents for the electric locomotives, as compared with 29 cents and 8 cents respectively for the preceding year.

The cost of freight movement in the electric zone during the month of October, 1917, when the conditions were normal, was stated to be 26 per cent less than if steam power alone had been used.



# New 50-Ton Electric Locomotive for Swiss Mountain Climbing

**A Narrow Gage Locomotive With Very High Rating Per Ton of Weight—Requirements Stipulated 11.2 M.P.H. on Heaviest Grade**

A NEW type of electric locomotive which presents some rather unusual features has been placed in service on the St. Moritz-Tirano Line of the Bernina Railroad in Switzerland. The demands made of the manufacturers, Brown, Boveri & Company, Baden, were exceptionally severe. The purchaser called for a locomotive capable of starting a 110-ton train on the most severe grades of this line and of maintaining speed of 11.2 m.p.h. on these grades. Moreover the weight per axle was limited to 8.6 tons (17,200 lb.). The length of the line is 23 miles, 16 $\frac{1}{2}$  miles having an average grade of 7 per cent, as well as numerous curves with a minimum radius of 131 ft. Power is drawn from an overhead contact line at 750 volts, direct current.

The motors on this locomotive are designed for use as generators on the down-grade trips, energizing the elec-

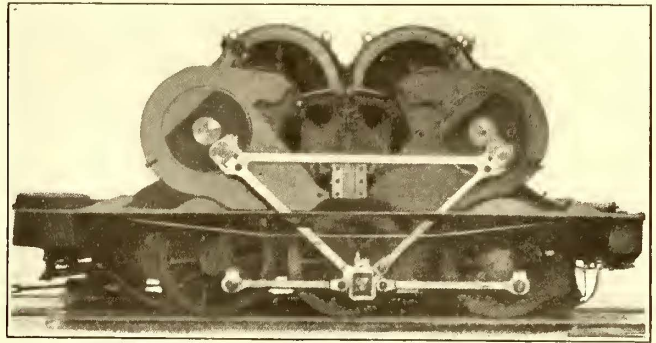


FIG. 3—MOTOR MOUNTING AND CONNECTING ROD DRIVE

original plan was therefore changed, and four motors of 155 hp. each were substituted to provide the desired low speed with all motors in series. The maximum speed of the train on level track is 31 m.p.h.

The details of construction are shown in the general views, Figs. 1 and 2. The central portion carries the track brakes, and is so arranged that it is always pulled by the leading motor truck but is never pushed by the following truck. It carries eight magnets capable of

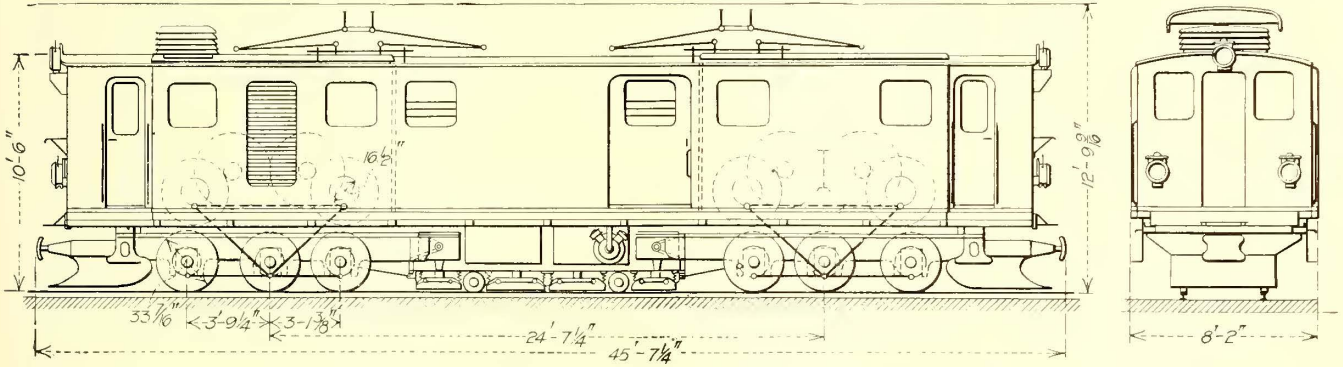


FIG. 1—GENERAL STRUCTURAL DETAILS OF LOCOMOTIVES

tric track brakes and providing rheostatic braking for the engines. The locomotive and cars are also fitted with Hardy vacuum brakes.

It was first attempted to use two motors of 310 hp. each for this service, but this was found undesirable as in winter it is necessary to use this locomotive as a snowplow and to operate it at very low speed. The

exerting a total vertical force of 45,760 lb. This system of braking the heavy engine on this road has proved very satisfactory, and despite the exceptionally trying conditions during the past winter not a single accident has occurred.

The motors are mounted in pairs on each truck as shown in Fig. 3. Each motor is geared to an intermediate shaft through gears with spring-mounted rims to absorb the shocks at starting. The power is transmitted to the driving wheels by means of connecting rods.

The locomotive, completely equipped with snowplow and all necessary equipment and tools, weighs 46.86 tons, of which 28.16 tons is the weight of the mechanical parts and 18.7 tons that of the electrical equipment. In the middle of the locomotive, between the two equipment sections, is a freight compartment of 3.3 tons capacity giving a maximum weight for traction of 50.16 tons.

In power per ton of weight this new engine is said to be the most remarkable of any of the narrow-gage type built so far. Its output on an hourly rating basis is 17 hp. per ton of weight. The gage is 39.37 in. (1 meter).

Further details of this locomotive are given in the issue of *Schweizerische Bauzeitung* for Feb. 23, 1918.

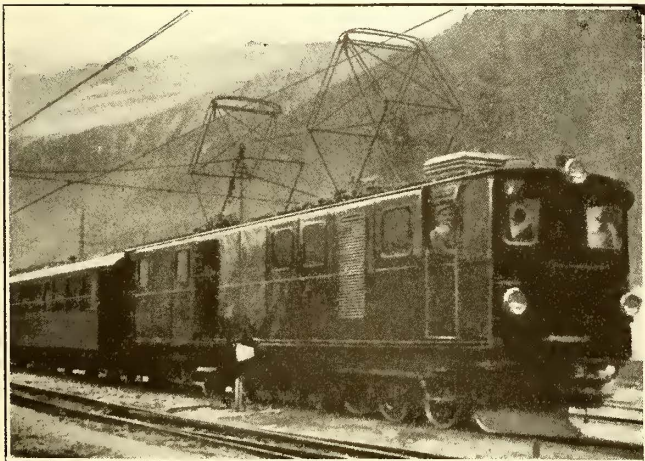
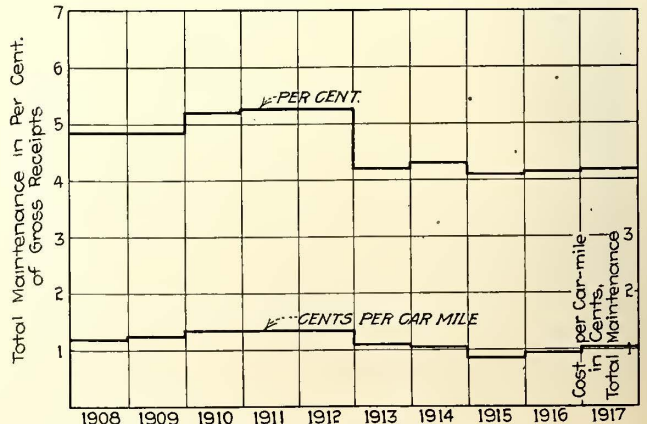
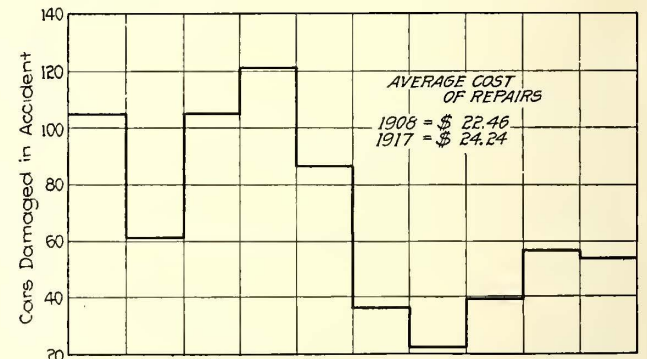
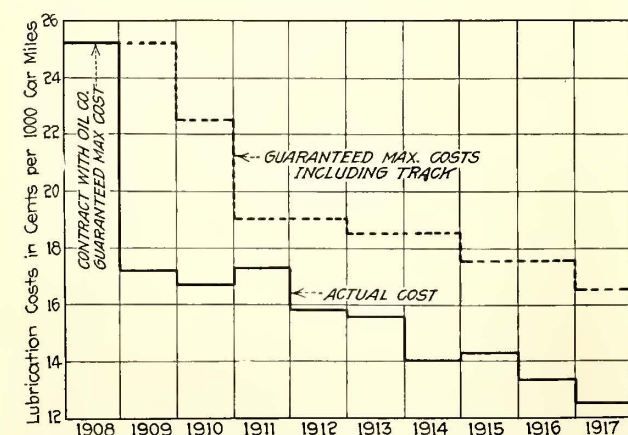
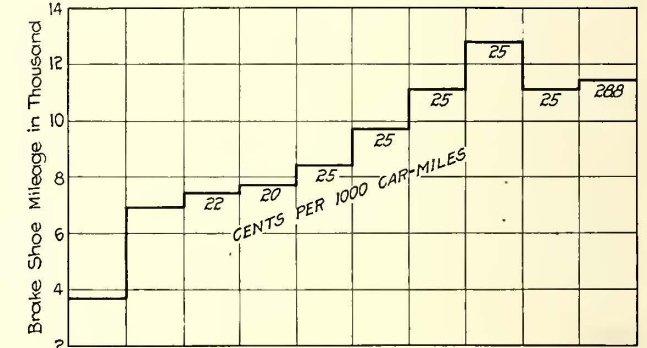
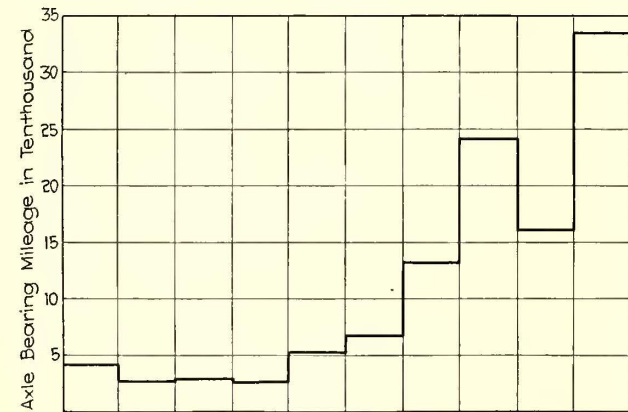
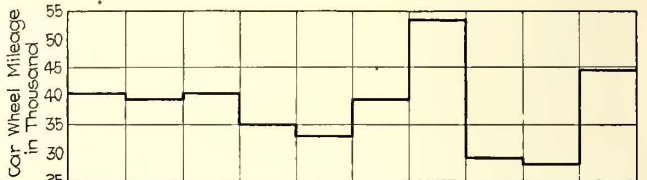
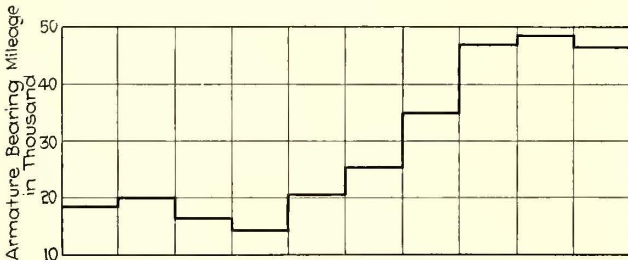
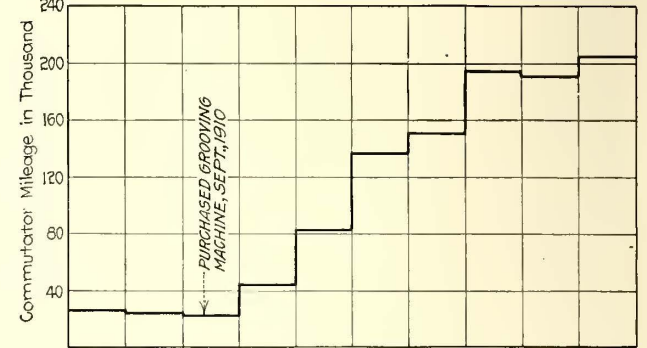
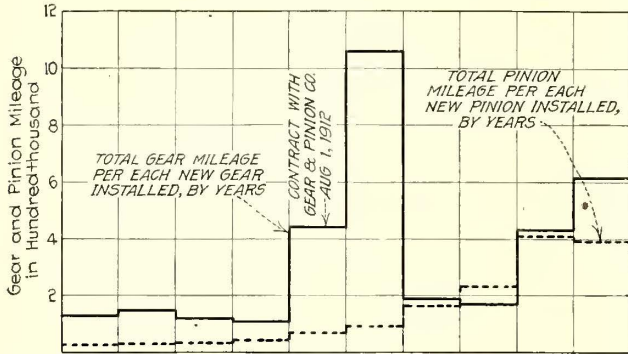
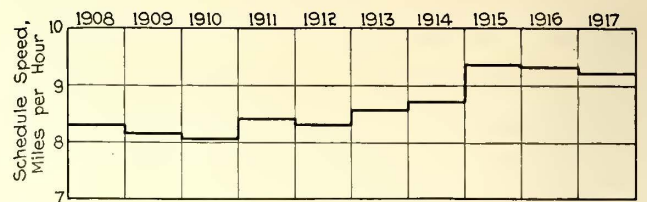
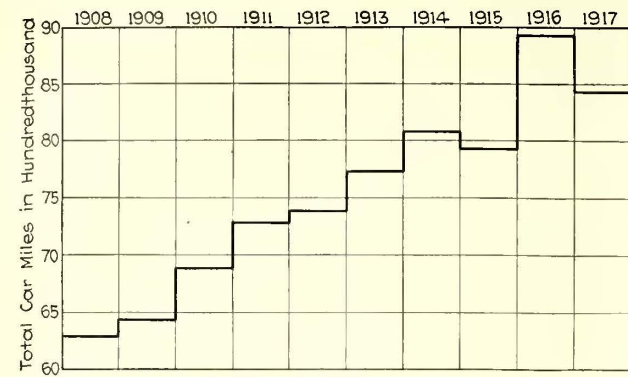


FIG. 2—LOCOMOTIVE HAULING 110-TON TRAIN





GRAPHS SHOWING ANNUAL RESULTS OF OPERATIONS OF EQUIPMENT ON MEMPHIS STREET RAILWAY (See left-hand scale of each figure for individual caption)



# Maintenance Records That Prove Invaluable

Memphis Street Railway Keeps Elaborate Records of the Performance of Its Equipment Based on Systematic Inspection—Efficiencies Checked Up Every Three Months—Tables and Graphs Show Comparative Results by Years

THE value of complete records of the operation and maintenance of the different parts of car equipment is indicated in the following outline of the method used by the mechanical department of the Memphis (Tenn.) Street Railway, of which A. D. McWhorter is superintendent of equipment and overhead lines. This company has prepared elaborate maintenance records, based upon careful and systematic inspections, covering a period of several years, and it is believed by the company that without question the results obtained entirely compensate for the work involved. In no other way than by recording the service secured can a check on the efficiency of operation be determined. This involves the compiling of a large number of data on an extensive property, but as will be seen from the methods used in Memphis, these can be arranged in very convenient form.

miles by the total number of car-hours, the latter being obtained on request from the auditor's office.

3. *Number of Cars Turned Out.* (a) *Machine Shop.* Figures obtained from the daily report turned in by motor and truck department foremen, and include all cars brought into the shop for repairs by motor and truck department. (b) *Carpenter Shop.* Figures obtained from carpenter-shop foreman's record of cars turned in and out each month and include all cars which received general repairs, repair on account of accidents, etc. (c) *Paint Shop.* Figures taken from monthly record of paint-shop foreman and include all cars brought in for regular painting, "touch-up" jobs, etc.

4. *Armatures Brought into Winding Room for Repairs.* These include all armatures removed from motors for bearing renewals, field repairs or for any other cause. When a motor is opened up the armature is taken to the winding room for inspection, where it is blown out and probably painted, string band is installed, etc. A separate entry is made for each type of motor, including compressor motors,

PASSENGER CAR EQUIPMENT											
Type and Service	No. Cars	Serial Number	Manufacturer	Date Built	Length of Body	Length Overall	Type of Truck	Brakes	Motors	Controllers	Seating Capacity
Single-Truck, Closed, Motor.....	38	107 to 144	Brill	1901	20 ft.	30 ft.	Brill 21-E	Hand	2 GE 800	K & K-2	Long 30
Double-Truck, Open, Trailer.....	19	700 to 718	Kuhlman	1905	13-bench	42 ft.	27 GE-1	Hand	—	—	Cross 66

FORM USED IN KEEPING DATA ON PASSENGER-CAR EQUIPMENT, MEMPHIS STREET RAILWAY

Some of the earlier methods used by the Memphis Company in keeping maintenance records were outlined and illustrated in an article published in the issue of the ELECTRIC RAILWAY JOURNAL for April 10, 1915, page 121.

As certain facts relative to the equipment should be borne in mind when considering the results obtained, the company keeps one record form filled in with data on all its passenger cars. This is shown in the blank reproduced in part on this page.

The maintenance record compiled in detail appears in tabular form as a "comparative statistical report of shop operation." This report is completed each year. The figures are entered for each month and a summation is made at the end of each period of six months and at the end of the year. Annual and semi-annual figures for the preceding year are also entered, together with figures to indicate whether there has been an increase or decrease with respect to each item. As one of these tables is too large to permit of reproduction, only a statement of the different items included are given here. These are listed as they appear in the table:

1. *Passenger Car-Miles.* Figures obtained from the statement of car-wheel mileage issued monthly from the auditor's office. Separate entry is made for each of the following: Single-truck, double-truck and maximum-traction-truck cars, double-truck trailer and total motor car-miles.

2. *Schedule Speed.* Obtained by dividing the total car-

and also of the total repairs made per month, armatures wound and fields used.

5. *Gears Used.* Classified according to the type of motor on which they were installed. Total monthly figures are also given and the average mileage of each for six months. Figures are obtained from the monthly statement of materials issued from the storeroom. The average miles are calculated by multiplying the single-truck and maximum-traction-truck motor car-miles by two and the double-truck motor car-miles by four, adding the product and dividing by the number of gears used during the period.

6. *Number of Pinions Used.* Same record kept as for gears.

7. *Commutators.* Number turned, as indicated from winding-room report, and average mileage of each for six-month period. The latter is calculated by multiplying the single-truck motor car-miles by two, the maximum-traction motor car-miles by three and the double-truck motor car-miles by five, adding the products and dividing by the number of commutators turned.

8. *Bearings Used.* (a) Number of pairs of armature bearings, taken from the daily reports of motor repairs, and an average mileage of each, which is obtained by multiplying the single-truck and maximum-traction-truck motor car-miles by two, and the double-truck motor car-miles by four, adding the product and dividing by the number of pairs of bearings used. (b) Number of axle bearings used. Also obtained from the daily report and the average miles, obtained by multiplying the single and maximum-traction-truck motor car-miles by four, and the double-truck motor car-miles by eight, adding the product and dividing by the number of axle bearings used during the period.

9. *Cost of Car Lubrication Per 1000 Car-Miles, in Cents.*



## Efficiency Report of the Memphis Street Railway, Mechanical Department

NOTE: Memphis & Lake View Ry. Co. Operation Included in this Report	CAR-MILES				CAR EQUIPMENT							
	Month of December		Year to Date		Passenger Cars			Seating Capacity	Age, Years	Motors		Age, Years
	1917	1916	1917	1916	Number	Type	Number			Type		
					Closed					Air Compressor		
<b>PASSENGER CAR-MILES</b>												
Double truck motor	333,280	353,667	4,188,888	4,366,021	83	Double truck, 4 motor.	44	12	50	G. P. 201-I	3	
Max. trac. truck motor	82,635	99,518	1,122,045	1,168,797	25	Max. trac. truck, 2 motor	48	3	2	West. 101-B	5	
Single truck motor	185,550	218,429	2,567,329	2,822,343	11	Single truck, 2 motor	36	5	156	G. E. 80	11	
Double truck trailers	37,480	50,611	532,867	587,021	96	Single truck, 2 motor	30	16	154	G. E. 57	12	
Total passenger	638,945	722,225	8,411,129	8,944,182	25	Double truck trailers	54	4	144	G. E. 67	13	
<b>SERVICE CAR-MILES</b>												
Double truck motor	2,049	2,368	41,531	43,943	73	OPEN			18	G. E. 1000	18	
Single truck motor	1,439	787	16,453	13,027	19	Single truck, 2 motor	50	14	264	G. E. 800	18	
Double truck trailers	184	645	6,902	5,227	332	Double truck trailers	54	13	16	West. 69	18	
Single truck trailers		181	2,760	6,515		Total			804	Total		
Total service	3,672	3,981	67,646	68,712		<b>SERVICE CARS</b>						
Total passenger and service	642,617	726,206	8,478,775	9,012,894	9	Double truck, 4 motor			25	West. D-1-F	3	
Total motor-miles	1,880,564	2,061,608	24,333,330	25,648,190	10	Single truck, 2 motor			1	West. D-2-EG	11	
Total air-brake-miles	417,964	455,553	5,352,464	5,578,761	4	Double truck trailers			4	West. D-1-EG	8	
Total wheel-miles	4,392,980	4,932,060	57,484,032	60,710,764	7	Single truck trailers			38	Nat. Brake DD-4	8	
Passenger car schedule, speed miles per hour	8.70	9.30	9.20	9.40	30	Total service cars			13	Nat. Brake AA-4	13	
					362	Total passenger and service cars			122	Nat. Brake AA-1	15	
									926	Nat. Brake B-2	13	
										Total air compressor		
										Total motor and air compr.		

Service Performance of Material and Parts	MONTH OF DECEMBER						YEAR TO DATE						Remarks
	1917			1916			1917			1916			
	Units Installed	Service Mi. per Unit Installed	Cost per M Miles	Units Installed	Service Mi. per Unit Installed	Cost per M Miles	Units Installed	Service Mi. per Unit Installed	Cost per M Miles	Units Installed	Service Mi. per Unit Installed	Cost per M Miles	
Railway armatures, wound	1	1,880,564		1	2,061,608		34	715,686		23	1,115,139		
Air compr. armatures, wound	0			0			16	334,529		12	464,900		
Fields, used	0			7	294,512		69	430,229		77	333,092		
Commutators, renewed	1	2,298,528		0			12	2,473,816		19	1,349,905		
Commutators, turned	8	287,316		9	229,067		145	204,729		166	154,146		
Gears, new	0			3	687,203		40	608,333		58	442,210		
Pinions, new	4	470,141		6	343,601		62	392,473		63	407,114		
Wheels, 33-in., new	91			137			1033			1835			
Wheels, 24-in., new	8	36,305	1000	46	27,248	1000	58	44,630	1000	90	27,647	1000	Mileage guaranteed.
Wheels, 21-in., new	22						197			272			
Brake shoes, 25 lb. ea., new	188	11,322	31600	525	9,394	2500	5032	11,424	28856	5462	11,121	2500	
Armature bearings, pairs	36	52,238		34	60,635		522	46,616		525	48,853		
Motor bearings		752,226		22	187,419		144	337,962		312	164,091		
Journal bearings, lb. each, average	39	112,640		37	133,297		385	149,309		264	230,078		
Lubrication			1931			1603			1504			1669	
Trolley wheels, 4-in. copper	156	3,878		125	5,373		1943	4,085		1373	6,087		

Car Changes	MONTH OF DECEMBER				YEAR TO DATE			
	1917		1916		1917		1916	
	Number	Car-Miles per Change	Number	Car-Miles per Change	Number	Car-Miles per Change	Number	Car-Miles per Change
Chargeable to carhouse	49	13,040	37	19,492	470	17,896	413	21,653
Not chargeable to carhouse	26	24,575	30	24,074	164	51,287	131	68,265
Total cars changed off line	75	8,519	67	10,779	634	13,267	544	16,439

Payroll, Total Force, Acts. 29B-32-35-36-38-39-66	MONTH OF DECEMBER		YEAR TO DATE	
	1917	1916	1917	1916
Total number men on roll	107	119	110	117
Average rate per hour	2.496	2.324	2.418	2.259
Total amount of payroll	\$7326.25	\$7529.50	\$85,955.85	\$84,749.10

Maintenance of Cars and Equipment Cost	MONTH OF DECEMBER				YEAR TO DATE			
	1917		1916		1917		1916	
	Amount	Per M. C. M.	Amount	Per M. C. M.	Amount	Per M. C. M.	Amount	Per M. C. M.
Superintendence, Act. 29B	\$526.00	0.849	\$496.52	.7048	\$5,833.78	0.713	\$25,192.94	0.5923
Passenger cars, Act. 32	4,463.62	7.205	4,500.24	6.3883	61,113.93	7.475	62,930.74	7.1773
Service cars, Act. 35	433.71	0.700	15.71	0.223	2,145.80	0.262	2,468.49	0.2815
Elect. equipment, Act. 36	1,427.38	2.304	1,109.59	1.5751	20,465.75	2.503	16,452.43	1.8764
Shop tools and mach., Act. 38	64.02	0.103	1.83	0.0026	541.51	0.066	207.71	0.0237
Shop expense, Act. 39	584.14	0.943	279.76	0.3971	5,743.90	0.702	4,778.65	0.5451
Total	\$7,498.87	12.104	\$6,403.65	9.0902	\$95,844.67	11.721	\$92,030.96	10.4963
Memphis & Lake View Railway	203.46	10.000	217.51	10.0000	2,408.52	10.000	2,449.31	10.0000
Total	\$7,702.33	12.051	\$6,621.16	9.3990	\$98,253.19	11.600	\$94,580.27	10.4894
Buildings and structures, Act. 25B	87.06	0.141	236.84	0.3262	2,161.63	0.264	2,625.26	0.2912
Carhouse employees, Act. 66	2,620.70	4.230	2,733.90	3.7695	30,248.90	3.700	28,854.10	3.2014
Total	\$2,707.76	4.371	\$2,970.74	4.0957	\$32,410.53	3.964	\$31,479.36	3.4926
R. & R. expenditure	None		None		None		None	
R. & R. reserves	\$7,961.78		\$11,073.90		\$75,635.86		\$89,714.54	
R. & R. total bal. reserves	168,995.38		126,969.10					
Apportionment for maintenance and R. & R. reserve	13%		13%		13%		13%	

Mehl. dept. only.  
For all depts.  
For all depts.



Data obtained from the monthly statement of lubricants consumed, issued by the auditor.

10. *Car Wheels Used.* Monthly figures obtained from the auditor's statement of car-wheel-miles and cost, and average mileage of each, which is figured from the total wheel-miles shown on the monthly wheel statement and the number of wheels used during the period.

11. *Trolley Wheels Used.* Same data as for car wheels.

12. *Brakeshoes Used.* Same data as for car wheels and in addition the monthly cost per 1000 car-miles.

13. *Cars Relieved.* Figures compiled from the daily report of cars changed on lines. (a) Those chargeable to carhouse with equipment failures. Separate reports are made of failures of different equipment as fender, mechanical air brake, electrical air brake, hand brake, wheel, circuit breaker, controller, motor, miscellaneous and monthly total failures. (b) Those not chargeable to carhouse, including cars relieved from service on account of accidents, for different type of equipment, etc., in fact all changes made over which the shop has no control. Separate entries are made under the following headings: Doors, accident, collision, split switch, trolley, broken glass, different type, no trouble, monthly totals which are not chargeable to carhouse, total number of cars changed, and cars off track.

14. *Cars Damaged in Accident, and Cost to Repair.* Costs are obtained from the auditor upon completion of the shop order which is issued covering repairs to car when damaged by accident or collision.

15. *Daily Average Number of Eighteen-Hour Cars for Both Single-Truck and Double-Truck Cars.* This item is calculated by dividing the total number of car-miles by the product of the schedule speed and the number of days per month times eighteen.

16. *Maintenance.* Average number of ten-hour men per day and cost per car-mile. Costs are obtained from the auditor's monthly statement, and the number of men by dividing the total number of man-hours per month by ten times the number of days in the month. These figures are entered quarterly and are made on separate accounts for maintenance of passenger cars, service cars, electric equipment and shop expenses.

17. *Total Maintenance.* In per cent of gross receipts, for a six-month period.

18. *Carhouse Employees.* Average ten-hour men per day. Record entered quarterly of number of men and cost per car-mile.

19. *Total Shop and Carhouse Force.* Figures are entered quarterly of the number of ten-hour men per eighteen-hour car-day and the average rate per hour. The former is obtained by dividing the total number of ten-hour men per day by the total number of eighteen-hour cars daily, and the latter by adding the rates of the entire payroll and dividing by the number of employees.

In addition to the comparative statistical report, an efficiency report is made out, the form of which is reproduced on the opposite page. It was developed in the beginning of the year 1917. It is in a large degree a duplicate of the report just outlined, but it is made up quarterly and is valuable in affording a means to check up frequently the operation and performance of various materials.

From the annual figures on the large comparative statistical report, graphs are plotted to show at a glance the result of operation over a period of years. Some of these are reproduced on page 806. These graphs are neatly drawn on 8½-in. x 11-in. sheets of cross-section paper and are kept on file in the superintendent's office.

## Portland Revises Merit and Demerit System

### Infractions of the Rules Are Divided Into Four Classes —A Tabulation Is Given of the Offenses in Each Class

ON JAN. 23, 1918, the Portland Railway, Light & Power Company, Portland, Ore., put into effect a revision of its merit and demerit system for transportation employees. The former schedule had been in use for a number of years. The new schedule classifies infractions of the rules in four divisions, according to the seriousness of the offenses.

Class A covers disregard of rules and regulations of the milder kind, carelessness and poor judgment. In such cases the attention of the offender is called to the error or omission by the inspector, superintendent or other person in authority. Repeated offenses in this class or any undue accumulation of various offenses in this class, indicating general negligence or indifference, are subject to reprimand by the division superintendent, and if the practice is continued subject the offender to suspension for one day. The list of offenses under Class A follows:

#### Class A

Punching transfers im-	Headlight on rear end.
properly.	No sander or fender pin.
Accepting transfers im-	No pick-up rope or stick.
properly.	No link or pin.
Carelessness in filling out	No car replacer.
transfer envelope.	Failure to report car when
Failure to cancel tickets and	storing in carhouse.
transfers.	Power under circuit breaker.
Carelessness in taking out	Rear fender down.
wrong transfers.	Sliding wheels.
Failure to announce car-des-	Throwing switch from mov-
tination or transfer points.	ing car.
Incomplete peak-load report.	Too fast over special work.
Wrong train cards.	Striking curves too fast.
Signs displayed wrongly.	Failure to test fender.
Carelessness regarding ven-	Failure to sound gong.
tilation.	Failure to test hand brakes.
Carelessness regarding heat-	Starting or stopping car with
ing car.	jerk.
Carelessness regarding lights.	Raindrops on window.
Carelessness regarding signs.	Reversing motors unneces-
Conductor riding inside car.	sarily.
Failure to keep car reason-	Carelessness regarding use of
ably clean.	sand or sand boxes.
Failure to keep platform and	Running with trolley off wire.
steps clean.	Trainmen off duty talking
Slouchiness in appearance.	with motorman.
Rear curtain down.	Failure to carry standard
Failure to report mail.	watch.

Class B covers the more serious and inexcusable infractions of the rules, regulations, etc. Offenses as listed in this class are subject to the following disciplinary procedure:

First time, caution by inspector.

Second time, reprimand by division superintendent.

Third time (or an undue accumulation of various offenses in this class), a minimum suspension of one day, the offender being also required to report to the superintendent of city lines who will consider the man's entire record and determine the disciplinary action to be taken.

While first offenses in this class are not entered on the individual's record at the general office, it is expected that cautions by inspectors will be respected by the men and accepted in the proper spirit. Inspectors, on the other hand, are instructed not to be arbitrary, over-



bearing or overzealous in the performance of their duties. The detailed offenses follow:

### Class B

Bunching fares.	Carelessness in handling of car.
Missing fares.	Passing at curve.
Taking wrong impression on register.	Passing on facing point of switch.
Leaving key in register.	Failure to make safety stop.
Keeping tab on register.	Abusing equipment.
Carelessness in making returns.	Carelessness in running through fog.
Failure to have necessary change.	Following leader too closely.
Failure to give proper signal.	Exceeding speed limit.
Failure to answer signal.	Carelessness when passing schools or fire stations.
Delay in leaving terminal.	Arriving at carhouse ahead of time.
Carrying passengers beyond destination.	Smoking while operating car.
Carelessness regarding car-ring for lost articles.	Incivility.
Failure to read notices.	Unnecessary delay.
Entertaining lady friend.	Failure to assist in blockade.
Using profane language.	Poor judgment in continually stopping for passengers when having a full load and followed by another car for same destination.
Ignoring transfer signals.	
Reading paper when car is running.	
Leaving car.	

All cases of a decidedly serious nature come under Class C. The procedure is that a thorough investigation is made, after which the findings are submitted to the superintendent of city lines, who brings up each case at the weekly meeting of division superintendents. If the trainman is found to be at fault the minimum suspension will be as noted in the list under Class C.

### Class C

Days Suspension	Days Suspension
1. Starting without signal.	3. Collision at crossing.
1. Giving signal too soon.	3. Collision at curve.
1. Starting on wrong signal.	3. Failure to flag crossing.
1. Derailing car carelessly.	3. Failure to stop at railroad crossing.
2. Collision with vehicle.	3. Reckless running.
2. Running into open switch.	3. Irregular fare registration.
2. Failure to report derailment.	3. Delay in filing accident report.
2. Backing into car.	6. Failure to report accident.
2. Disregarding rule on derail switches.	6. Running without permission of superintendent.
2. Disregarding rule on bridges.	6. Disregarding rule on block signals.
2. Disregarding rule on switching back.	6. Disregarding rule on protection of train.
2. Conductor riding on front end of car.	7. Rear-end collision.
2. Leaving ahead of time.	7. Head-on collision.
2. Running ahead of schedule.	10. Dishonesty.
2. Leaving car.	10. Refusing to obey order.
2. Running by passenger.	10. Inexcusable accident.
2. Allowing passenger to step from moving car.	10. Drinking.
3. Collision at switch.	10. Gambling.
	10. Unbecoming conduct.

The days of suspension have to be served at the foot of the extra list and not as a vacation, as the men are required to report once or twice a day without pay.

In addition to the classified offenses in the preceding three classes there is a fourth class, called Class D, which covers failure to report for duty. Failure so to report is penalized as noted below:

### Class D

Previous to 10.00 a.m., reporting within thirty minutes after the regular reporting time, one day at the bottom of the extra list.

Failure to report within thirty minutes after the regular reporting time, but reporting at the next designated reporting time, two days at the bottom of extra list.

Failure to report at the first designated reporting time

after having missed, but reporting at the second designated reporting time, three days at the bottom of the extra list. One day will be added for each regular and designated reporting time that passes thereafter until the man receives ten days, which will be sufficient cause for his removal from the list.

After 10 a.m. reporting within thirty minutes after regular reporting time, two days at the bottom of the extra list.

Failure to report within thirty minutes after regular reporting time, but reporting at the next designated reporting time, three days at the bottom of extra list.

Failure to report at the first designated reporting time after having missed, but reporting at the second designated reporting time, four days at the bottom of the extra list.

One day will be added for each regular and designated reporting time that passes thereafter until he receives ten days, which will be sufficient cause for the removal from the list.

No trainman is considered excused unless his name is marked off on the working list.

Of course, continued disregard of rules or orders, disloyalty to the company or to the country, dishonesty and other very serious offenses are considered sufficient cause for discharge.

As with other companies individual records are kept of the performance of the men, and each man is permitted to have an abstract of his own record.

## Welding Keeps Equipment Off the Sick List

R. L. BROWNE, engineer Metal & Thermit Corporation, presented a paper on welding with "thermit" before the New York Railroad Club at its meeting on April 19. The address was illustrated with lantern slides and moving pictures showing how machines of different types were welded and how the various processes of preparing the parts for welding, making the molds and preheating the members to be welded were carried out. Mr. Browne stated that the widest field for the application of this type of welding is found in the repairs to steam locomotives, but that electric railways are finding it very useful in rail welding. The greatest economies are produced in welding large parts, such as are used in connection with rolling mill equipment. Demonstrations of pipe and plate welding were given at the close of the meeting.

In the discussion of the paper, W. E. Simons, Wilson Welder & Metal Company, discussed electric welding and gave some figures to show the saving that could be obtained in metal and labor by using welded joints in sheet metal work instead of mutilating the plates by punching holes in them and then riveting the joints. A large field for sheet metal welding is in the construction of steel car bodies.

## Coal Zoning Plan Embarrasses Railway

The Kansas City Railways is among the large coal users in its district seriously embarrassed by the zoning of coal distribution. The company had contracts with Illinois companies, service under which was embargoed on March 30. The company had about 25,000 tons of coal on hand, three weeks' supply. It is now receiving from Kansas mines just about enough to meet its daily demands. Any interference with this movement even this summer will cause a drain on the reserve. The Kansas coal is costing nearly \$1 a ton more than the coal cost under the Illinois contract, and the company



# Commissions Without Power in New York

Rochester Decision of Court of Appeals Holds That Regulatory Law Is Defective as Regards Grant of Control Over Franchise Rates—Also Raises Doubt About Power of Legislature to Remedy Situation Owing to Constitutional Clause

THE decision of the New York Court of Appeals in *Quincy v. the City of Rochester*, a preliminary mention of which was made in the *ELECTRIC RAILWAY JOURNAL* of April 13, has now been released for publication. In this decision the highest court in the State rules that the public service commission law makes no provision for the regulation of rates fixed in franchises. Furthermore, although it expresses the impropriety of now deciding the point, the court intimates that in view of the constitutional requirement in New York for municipal consent to utility operation, franchise rates are unalterable except with municipal permission. The court thus raises the doubt whether the Legislature has power to grant relief from franchise restrictions.

## STATUTORY RATES CAN BE CHANGED

After explaining the local details of the Rochester case the Court of Appeals takes up the question of whether the jurisdiction of the Public Service Commission is limited by the Rochester charter amendment of 1915 fixing a 5-cent fare.

On this point the court says:

"The policy of the State is said to be that the Public Service Commission should deal with the regulation of rates of fare charged by railroad corporations without limitation or restraint, and with the power to increase as well as decrease such rates. (*People ex rel. N. Y. & N. S. Traction Co. v. Public Service Commission*, 175 App. Div. 869; *People ex rel. Ulster & D. R. R. v. Public Service Commission*, 171 App. Div. 607,611; *affd.*, 218 N. Y. 643.)

"The section [Section 49, subdivision 1, of the public service commission law], read as a whole, is susceptible of no other natural interpretation than that the Legislature has, for greater certainty, expressly included in its general delegation of powers, the power of the commission to reduce a maximum rate *fixed by the Legislature*. The purpose of the Legislature was to provide for the regulation of statutory fares by a board which may be expected to pass equitably upon conflicting claims with its single purpose the common good, even where a maximum rate had been fixed by the Legislature.

"The case of *Willis v. City of Rochester* (219 N. Y. 427) merely upheld the charter amendment as a constitutional exercise of the legislative power to fix rates. Rates so fixed by special statute are still subject to regulation by the Public Service Commission. The jurisdiction of that body over such rates is not to be reduced by implication. The Legislature merely fixed the rate *pro tempore*."

In regard to the consent required by the Constitution the court states in part:

"The power of the local authorities to impose as a condition to giving consent to the construction and operation of a street railroad that a stipulated rate of

fare should be charged has been repeatedly upheld. (*People ex rel. West Side St. Ry. Co. v. Barnard*, 110 N. Y. 548; *Kittinger v. Buffalo Traction Co.*, 160 N. Y. 377, 391, 392; *Public Service Commission v. Westchester St. R. R.*, 206 N. Y. 209; *People ex rel. Frontier Elec. Ry. v. City of North Tonawanda*, 70 Misc. Rep. 91; *Allegheny City v. Millville, A. & S. J. Ry.*, 159 Pa. St. 411.) But these cases dealt with the question of local power over the corporation and not with the question of general legislative power over the municipality. The question presented is this: The consent of the local authorities being obtained, what jurisdiction has the Legislature conferred upon the Public Service Commission to regulate rates by increasing the rate agreed upon without such consent?

"It has been held that the Legislature may, by virtue of its general power over municipalities, regulate the mode and manner in which the consent of the local authorities to the construction and operation of street railroads shall be given, and may regulate and limit by statute the conditions upon which it may be given. (*Matter of Thirty-fourth St. R. R.*, 102 N. Y. 343; *Beckman v. Third Ave. R. R.*, 153 N. Y. 144, 152; *People ex rel. S. S. Traction Co. v. Wilcox*, 196 N. Y. 212.) Regulations are so made in certain cases by the railroad law, Section 173, but that section expressly provides that nothing therein contained shall be construed as modifying or affecting the terms of the contract between the City of Rochester and the street railroad, and it looks to the future and does not attempt to regulate consents already granted.

## THE CONSTITUTIONAL POINT INVOLVED

"The Constitution does not expressly provide that the municipality may irrevocably establish rates for the entire period of a franchise, and it has been held invariably and in a legion of cases that such power to establish rates is not essential to the consent of local authorities and will not be implied and that the Legislature is at all times supreme in the matter. (*Home Telephone & Tel. Co. v. City of Los Angeles*, 211 U. S. 265; *Arlington Board of Survey v. Bay State St. Ry.*, 224 Mass. 463; *State ex rel. Webster v. Superior Court*, 67 Wash. 37; *L. R. A. 1915, C. 287*; *State ex rel. M. S. R. R. v. P. S. C.*, 168 S. W. Rep. 1156; *City of Manitowoc v. M. & N. Traction Co.*, 145 Wis. 13; *City of Dawson v. Dawson Tel. Co.*, 137 Ga. 62; *City of Woodburn v. Public Service Commission*, 82 Ore., 114; *L. R. A. 1917, C. 98*; *Collingswood Sewerage Co. v. Borough of Collingswood*, 91 N. J. L.).

"In all such cases, the question was one of unrestricted legislative power, policy and discretion over a city or town where the local authorities were held to be mere instrumentalities through which the State exercised its sovereign power. The paramount power of the Legislature over the subject of fares was upheld in the absence of a constitutional limitation.



"But our Constitution, by requiring the consent of the local authorities, recognizes that our municipalities are *pro tanto* independent of legislative control, exercising some fragment of power, otherwise legislative in character, which has been thus irrevocably transferred by the fundamental law from the Legislature to the locality. The grant by the municipality of authority to use the streets is not a mere privilege or gratuity. Once accepted, it becomes a contract which neither the State nor its agencies can impair. (People v. O'Brien, 111 N. Y. 1.)

"It is urged by the appellant . . . that the Public Service Commission has no jurisdiction over the subject-matter of rate regulations in the city of Rochester because the Legislature has no power to alter the rates fixed by consent of the company and the local authorities. It is, however, unnecessary and, therefore, improper to decide at this time what the limits of legislative power are in this connection. The delegation of legislative power to commissions and other administrative officers and boards need not be assumed if the general words from which such delegation may be inferred are not reasonably so construed."

#### COMMISSION LAW IS DEFECTIVE

The court then states that the public service commission law and the railroad law deal with maximum rates of fare established by statute but make no reference in terms to rates established by agreement with local authorities. In the court's opinion, it is impossible to find a word in the statutes which discloses the legislative intent to deal with the matter of rates fixed by agreement with local authorities. The authority of the commission to regulate rates in such cases and thus to extinguish an undoubted power of the local authorities should fairly appear before it is assumed to exist. It follows that the Public Service Commission is without jurisdiction and that an absolute writ of prohibition should be awarded against it.

The court divided five to two on the question of the regulatory law being defective, but one concurring judge gave the opinion that the reserve police power of the Legislature had not been contracted away.

## Financial Relief Is Blocked

**Court Decision Destroys Most Fare Increases in New York—Cuts Off General Relief on Most Pending Applications**

SINCE the foregoing decision of the Court of Appeals in the Rochester case was handed down on April 5, the death rate among electric railway fare increases in New York State has been terribly high. Up to the time of the decision the Public Service Commission for the Second District of New York had received thirty-one applications and had granted ten increases. Six other cases were reaching their final stages. Most of the cases, however, have not been able to stand the shock of the decision.

#### SEVEN OUT OF TEN INCREASES ANNULLED

The first announcement of the commission after the decision was to the effect that the 6-cent fares authorized for the Hornell Traction Company, the Ithaca Traction Corporation and the Orange County Traction Company

were apparently not affected. The Waverly, Sayre & Athens Traction Company, however, had voluntarily withdrawn its 6-cent schedule.

To four other companies that had since about Dec. 1, 1917, received permission to charge higher fares, the commission issued orders to show why the increases should not be annulled. Three companies, the Glen Cove Railroad (6 cents), the Northport Traction Company (6 cents) and the Huntington Railroad (6 cents), did not appear on the return of the orders but restored their 5-cent fares. New tariffs were filed on April 18.

The fourth company, the Hudson River & Eastern Traction Company, objected at the hearing to the revoking of the order permitting it to charge a 7-cent fare. Counsel for the company argued that its franchise did not come within the prohibition of jurisdiction set by the Court of Appeals. Decision was reserved by the commission, and a few days later the company filed a tariff announcing a reduction to the old 5-cent rate.

Two other fares of 7 cents had been granted, in the cases of the Peekskill Lighting & Railroad Company and the Putnam & Westchester Traction Company. These cases had been reopened last February, partly on the ground of a franchise fare restriction, and after the Court of Appeals finding the commission reserved decision. The Peekskill company, however, has filed a 5-cent tariff.

#### MOST OF PENDING APPLICATIONS INVOLVE FRANCHISES

The commission also sent out notices for a public hearing on April 18 on the pending petitions of twenty-one electric railways. The companies included the following:

- Albany Southern Railroad.
- Auburn & Syracuse Electric Railroad.
- Corning & Painted Post Street Railway.
- Elmira, Corning & Waverly Railway.
- Elmira Water, Light & Railroad Company.
- Empire State Railroad Corporation.
- Fishkill Electric Railway.
- Geneva, Seneca Falls & Auburn Railroad.
- Hudson Valley Railway.
- Kings Consolidated Railroad.
- New York & Stamford Railway.
- New York State Railways.
- Schenectady Railway.
- United Traction Company.
- Westchester Street Railroad.
- Syracuse & Northern Electric Railway.
- Empire United Railways, Inc.
- Rochester, Syracuse & Eastern Railroad.
- Buffalo, Lockport & Rochester Railway.
- Poughkeepsie & Wappingers Falls Railway.
- Buffalo & Lake Erie Traction Company.

At the hearing Charles E. Hotchkiss, New York, N. Y., representing the carriers, stated that all legal remedies had not yet been exhausted, and that there was under consideration an application for a reopening of the decision in the Rochester case. He suggested that the commission in the meantime reserve decision as to the dismissal of the various applications.

The petitions were then taken up one by one, to ascertain the franchise questions involved. The Buffalo & Lake Erie Traction Company said that there are some fare restrictions and asked that the case be set down for April 29. The Albany Southern Railroad's application was set down for April 25. The corporation counsel of Rensselaer said he desired to introduce the village franchise.



The Corning & Painted Post Street Railway stated that there are fare limitations in Corning and Painted Post. On the Elmira, Corning & Waverly Railroad there is one franchise limitation, and it was asked that the case be held for hearing on notice. The Elmira Water, Light & Railroad Company said that there are no franchise restrictions.

The Empire State Railroad Corporation testified to seemingly no rate restrictions in Oswego, Fulton, Syracuse and Auburn. The Fishkill Electric Railroad has no restriction as to fare. There was no appearance for the Geneva, Seneca Falls & Auburn Railroad.

The Hudson Valley Railway asked that the case be continued with privilege to file an amended petition. It was said there are two instances of fare restrictions, in Saratoga Springs and Glens Falls. City representatives claimed the existence of a fare restriction in Fort Edward.

The New York & Stamford Railway stated that there are some fare restrictions and some modifications of the franchise agreements. Port Chester representatives stated that there is no question but that the Court of Appeals decision applies to that village. This case had been started before the commission, and after several franchises had been introduced by villages interested, the commission declared the case closed. City counsel asked for a reopening of the Poughkeepsie & Wappingers Falls Railway's application in order to submit a franchise limiting the fare. The request was granted by the commission. This case had been closed but not decided.

The Schenectady Railway said that there are some franchises with limitations and asked leave to withdraw its application. The corporation counsel of Albany asked to have the application of the United Traction Company continued with leave to amend the petition. The Court of Appeals decision, he said, does not dispose of the case. The corporation counsel of Troy averred that there are a number of franchise restrictions on the company's lines in Troy.

The Westchester Street Railroad testified to a multiplicity of franchises and some restrictions, and asked that the case be reserved. The Syracuse & Northern Electric Railway said that it operates in Syracuse under a traffic agreement. This also applies to the Rochester, Syracuse & Eastern Railroad and in Rochester to the Buffalo, Lockport & Rochester Railway. Some restrictions exist in the case of the Auburn & Syracuse Electric Railroad.

The Kingston Consolidated Railroad Company is probably affected on one division, and there was a request to hold the case open. The New York State Railways stated that Syracuse is not involved in the court decision. There are some franchise restrictions in Oneida and on one or two lines in Utica. Little Falls seems to have a franchise restriction, but there is none in Rome.

The hearing, therefore, served to establish the fact that most of the pending applications, in whole or in part, involve franchise rates. Only three companies asserted that no franchise limitations upon fares exist. In the case of the United Traction Company, there seem to be no franchise limitations for its Albany lines, just as there are none for the Syracuse lines of the New York State Railways.

## Conference on War Topics

**Southwestern Association Has Two-Day Conference Instead of Usual Convention—Thorough Study to be Made of Possibilities of Using Texas Lignite as Fuel**

THE fourteenth annual convention of the Southwestern Electrical & Gas Association was held in Galveston on April 15 and 16, but, on account of war conditions, the executive committee arranged for a "conference" rather than a convention. All public entertainment was cut out, the convention was limited to two days, and few formal papers were read. The program of the convention in all three of its sections, namely, gas, railway and electric light and power, was arranged to include a discussion of the topics made most important by war conditions. These topics were, as a whole, fuel, labor-saving machinery and apparatus, the general labor question, legislation and methods of increasing net earnings either by increased rates or decreased costs of operating.

While the attendance was not—and was not expected to be—as large as at previous conventions, more than 150 members were in attendance.

The association decided that it would hold local meetings of the chairmen of the three sections three times per year, in different portions of the State, and invite the attendance of all adjacent members. This arrangement will virtually have the effect of three sub-conventions held during the year, located geographically so that the distance to be traveled by each member will be quite small. These meetings will occupy only one day each.

The only other actions taken were the decision to appoint a committee—the names not yet determined—to investigate and report on the use of Texas lignite both as a fuel and for gas making, the researches to be made in conjunction with the University of Texas, and the appointment of another committee to investigate the establishment by the association of two or more post-graduate scholarships on chemistry and electricity at the University of Texas so that the problems of fuel, lubrication and water purification may be under continual research at the University and their results accessible at any time to any of the members of the association. In his annual address President Morris said, in part:

### PRESIDENT'S ADDRESS

"We of the utility business are behind other manufacturing and distributing plants in the use of labor-saving machinery. With the sole exception of firing our boilers we have been plodding along with the same proportion of labor to our output as we have for years past. It is true that we have greatly increased the size of our generating, transmitting and distributing units, and have thus indirectly decreased the proportion of labor to output that has been in most cases a resultant not fully considered in the investment because the reason has been to obtain greater efficiency and economy in our apparatus. If by the expenditure of \$500 we make a net saving of only 10 cents per day in labor we have made an annual saving of \$36.50, a sum which is more than 7½ per cent on the investment. To make this saving is almost as good as to buy a Liberty Bond and nearly as patriotic,



for we have released nearly \$40 worth of actually useless labor, and as the government is in serious need of labor at this time every cent's worth wasted is a crime.

"The question of fuel in Texas is a complicated matter, because we have four fuels locally available—coal, lignite, natural gas and oil. The distances in the State are so great that freight and pipe line costs are a large factor. The necessities of the national government are such at this time that not only the mine prices have been raised on coal, but freight rates in some cases have been advanced. It seems probable that the use of oil as fuel may be still further restricted in the future to an extent which will make it too costly or too uncertain for the use of public utilities.

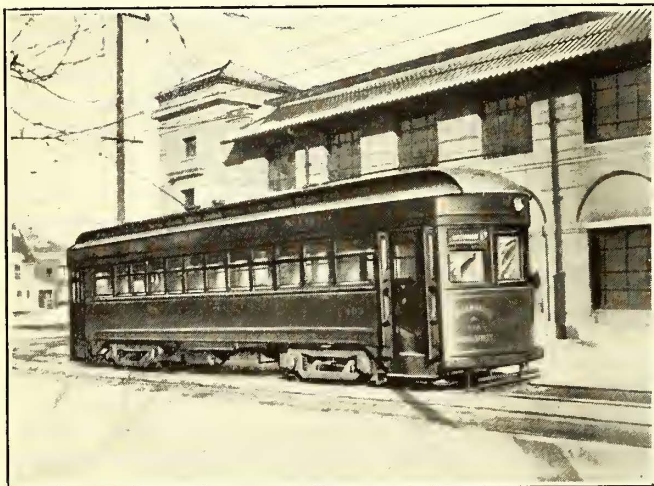
"There has come at least one bright spot in the gloom surrounding the public utilities at this time and that is the recognition which they have received at the hands of the government. No one can read the letters of our President and our Secretary of the

## New Four-Motor Multiple-Unit Cars at Dayton

**Oakwood Street Railway Builds New Cars for Train Operation Equipped with Safety Devices of Home Design**

THE Oakwood Street Railway, Dayton, Ohio, has recently built in its shops five double-truck, multiple-unit passenger cars which in many respects are quite similar to other double-truck equipment built by this company. The new cars are 44 ft. 9 in. long overall, 8 ft. 3 in. wide and seat forty-four passengers. They are of wood construction with steel underframe and steel sheathing, and have the appearance of very heavy cars for city service. They actually weigh a little less than 19 tons each complete. Experience with somewhat similar equipment convinced the company that the long life of a conservative car would more than offset the economies afforded by an extremely lightweight car.

Four-motor equipments were chosen on account of a



EXTERIOR AND INTERIOR VIEWS OF NEW MULTIPLE-UNIT CAR FOR OAKWOOD STREET RAILWAY

Treasury or the reports of the Comptroller of the Currency and not feel that our efforts have not been fully appreciated."

### OFFICERS ELECTED

The officers for the ensuing year elected were president, W. A. Sullivan, general manager Shreveport Railways; first vice-president, Burr Martin, general manager Texas Electric Railway; second vice-president, E. S. Fletcher, assistant general manager Texas Power & Light Company; third vice-president, A. Hardgrave, vice-president Marshall Electric Company; secretary, H. S. Cooper; treasurer, J. B. Walker.

The executive committee is made up of the president, vice-presidents and H. C. Morris, R. Meriwether and W. B. Head, Dallas; J. C. Kennedy, Brenham; S. R. Bertron, Jr., and F. D. Murphy, Houston; F. J. Storm, Amarillo; W. B. Tuttle, San Antonio, and G. H. Clifford, Fort Worth. The usual advisory committee was also elected.

V. W. Berry, Northern Texas Traction Company, Fort Worth, was appointed chairman of the railway section for the ensuing year.

stretch of track which contains a number of curves and heavy grades. On more than a mile of this the average grade is a little over 6 per cent and the maximum  $8\frac{1}{2}$  per cent. The motors are Westinghouse 323-V with HL unit-switch, multiple-unit control. The cars are now being operated singly, as they are not yet equipped with electrical couplers. General Electric straight air brakes, with the automatic feature, are used, with compressors of the CP-27 type.

The cars are equipped with standard C-50-P trucks having a 6-ft. 1-in. wheelbase and 30-in. rolled-steel one-wear wheels arranged for inside-hung motors. The distance between truck centers is 22 ft. the trucks being placed as far apart as possible to give the car an easy riding quality. The 20-in. wheels give a 12-in. height for the first step, and 11-in. steps to the platform and from the platform to the car floor. The floor is ramped  $2\frac{1}{2}$  in. in 5 ft. at each end of the car.

The door-operating mechanism and door-signal system is of the company's own design and make. Hand operation is used, the front or entrance doors being controlled by the motorman and the rear doors by the conductor. It is so provided that the doors on both



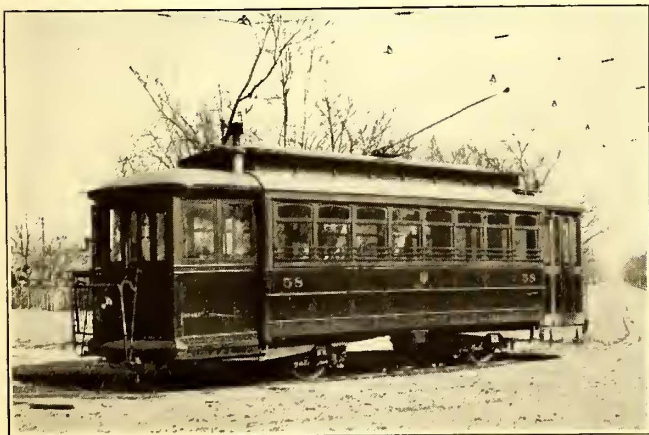
sides of the car can be controlled from the conductor's position, in order that on the second car of a two-unit train the front doors can be used for both entrance and exit. In the design of the door-operating mechanism, the main object was to eliminate all unnecessary apparatus and to provide all possible space over the life guard by placing as few parts as possible under the platform. With the equipment used only one of the double doors is operated from beneath the car. This door transmits motion to the step through a set of small bevel gears and operates the second door with sprocket and chain across the top. The doors are not interlocked with the control circuit, but with the cars operated either singly or in trains a signal lamp mounted in front of the motorman gives him a clear indication when all the doors are closed and a red light when either door is open.

The illuminated destination signs and the fare boxes used are also of the company's own manufacture. The fares are dumped into a hopper by means of a foot treadle and no register is used. This leaves the conductor's hands free to issue transfers, tickets and change and gives him additional time to inspect fares. There is an advantage in this as the tickets of five additional companies are honored.

The seats were furnished by Hale & Kilburn, ten crosswalk-over seats on each side and two box longitudinal seats in opposite corners, the spaces opposite the cross seats being open to allow easy entrance and egress of passengers. The electric heaters, controlled by thermostats, and the passengers' buzzers are furnished by the Consolidated Car Heating Company. The lighting system consists of three hemispheres in a deck, each containing two 23-watt Mazda lamps, and six lamps of the same size on each side mounted on wall brackets and provided with shades.

### Radial Trucks for Power Saving and Better Riding

THE practicability of the radial truck, particularly for medium-length cars, has been demonstrated now in quite a number of installations. A recent example is that of the Hutchinson (Kan.) Inter-Urban Railway which in 1917 equipped the car shown with a radial truck from the Philadelphia Holding Company. The car exclusive of trucks weighs 10 tons and is 33 ft. long over all and 21 ft. over the corner posts. It was found that a car of this weight and dimensions could



INTERURBAN CAR EQUIPPED WITH RADIAL TRUCKS

not be handled properly by the original trucks of 7-ft. 10-in. wheelbase. So much oscillation developed in fast running that the front wheels would leave the rail entirely and take out across country.

James E. Humbert, general manager of this railway, reports that since installing the radial truck the car rides like a double-truck car over the roughest sort of special work; runs at maximum speed on interurban track without trouble; uses less energy, takes the shortest curves and binds so little that it will start on the first point from a dead stop in the middle of a 45-ft. radius curve.

### Pole Painters' Tower Wagon With Three Platforms

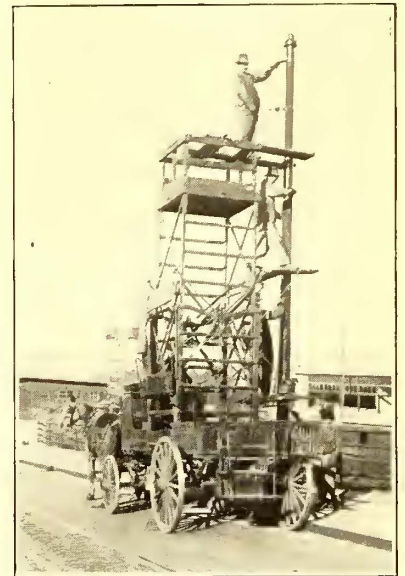
Cheaper Labor Can Be Used on a Safe Structure—Through Use of This Wagon Much Time Is Saved and Accidents Are Prevented

BY S. L. FOSTER

Chief Electrician United Railroads of San Francisco

IN ORDER to paint iron poles expeditiously the United Railroads of San Francisco equipped one of the ordinary Trenton two-section tower wagons for this work. The swinging leaf was removed and the top of the tower was provided with a floor and railing on which

were mounted two sliding boards for the topmost man. These boards can be pulled out on either side of the wagon to permit reaching all sides of the pole. The second man from the top is provided with a single adjustable hinged platform with movable projecting arm on which he can stand in getting at his part of the pole. This platform is supported by hinged iron struts without bolts or nuts. The third man from the top has a similar hinged platform but



POLE PAINTERS AT WORK WITH TOWER WAGON, UNITED RAILROADS OF SAN FRANCISCO

it is suspended by chains. The fourth man, the foreman of the crew, paints his part of the pole standing on the ground and attaches the conspicuous "Paint" sign on the finished pole in addition to his usual duties of supervision.

After each man has brushed, scraped, sandpapered or chipped his part of the pole as conditions require and has painted it, the top man steps back onto the top of the tower and withdraws his two boards from around the pole. The second man steps down onto the front of the wagon back of the driver's seat and assists the third man to drop the second platform and lift up the third platform until it lies against the tower. Here it is fastened securely by a hook in a link of the chain



suspension. There are platforms on either side of the tower for the two intermediate painters.

With this method of painting there is no climbing up and down ladders as succeeding poles are painted. There is a minimum of danger of men falling and ladders slipping or being struck by outsiders or vehicles as the men have stable platforms to stand on. A cheaper class of workmen can also be employed on such a safe structure.

The time occupied in painting one 30-ft., 5-in., 6-in., 7-in. tubular pole is usually not more than six minutes on second coating work.

Before this tower passes along the pole line all of the poles have their bases scraped and painted with red lead for a foot or more. This red-leading of the pole bases is done by one man on foot who precedes the tower crew by a week or more.

When workmen are painting poles, all metal parts in their reach are covered, including crossarms, iron pins, pole bands, iron links and the make-ups of the stranded span or guy wires.

All ornamental cast-iron rings at joint insertions and all cast-iron base castings were broken off the iron poles in San Francisco years ago and the use of such accessories was dispensed with except on two main streets where elaborate cast-iron ornamentations were recently installed for franchise reasons. The ornamental rings previously used were found to harbor moisture and to lead to rapid corrosion of the pole, while their inside surfaces were inaccessible to the painters.

## The Interurban Freight Terminal

The Author Cites Reasons for Congestion at Terminals and Makes Suggestions for Improvement of Electric Freight Handling Methods

BY THOMAS B. MCMATH

Chief Engineer Indianapolis Traction & Terminal Company,  
Indianapolis, Ind.

**I**NTERURBAN freight handling differs from steam railroad freight handling in several ways. Steam roads have a great number of cars available, and they permit the freight to remain for a considerable time in the car, which need not be set at the freight house until it is convenient to unload it. There are always several cars available at the platform for loading material bound for as many destinations. Congestion in the freight house can largely be avoided by a systematic and careful agent.

Interurban freight cars, on the other hand, are not numerous, and the trains seldom consist of more than a motor and a trailer. The fact that the motor car, and generally the trailer also, must be loaded and unloaded on schedule imposes the most impressive difference from steam railroad practice.

An ordinary freight car makes about 25 miles per day, due to the time spent in yards and the great time allowance for loading and unloading, while interurban freight car mileage must be about 120 per day.

If freight is offered at the interurban freight house throughout the day, it must be placed on the floor until the train arrives and is unloaded. All freight offered after the train leaves must be held for the next train. This requires a greater amount of floor space than in

steam railroad practice. The house floor space should be approximately four times the car floor area. The floor area, therefore, in an outbound freight house open all day to receive freight should be not less than double the car floor area of all the cars to be loaded during a day at that house. This is assuming that but one freight shipment per day is available to any destination, and that this train remains only two hours to unload and be reloaded.

Inbound freight presents a worse condition in that it remains on the floor twice as long as the outbound freight and requires twice the floor space of the latter. The problem of handling inbound freight depends largely upon the rapidity with which the consignee calls for his shipment, and this is largely beyond the power of the agent to control or regulate. The investment in freight terminals for interurban roads is so great in proportion to the tonnage handled that it seems to be a mistake to follow the customary methods of handling. It is considered prompt if freight is removed from a steam railroad terminal in forty-eight hours, but in most cases the road has consumed the time of at least three or more days in transporting it. Comparing this with forty-eight hours to remove freight from a car that was loaded, taken to the destination and unloaded in six or eight hours, as on an electric railway, it will clearly be seen that forty-eight hours' free time given in an interurban freight house to unload a car is desperately slow. In proportion, only five and one-third hours' free time should be allowed. The customary time allowance is not giving the interurbans fair treatment and is depriving many customers of service that would be available if the hauling could be speeded up.

It seems that the English freight system has features to commend it and should be adopted. This consists of making the freight delivery direct to the consignee by having a transfer company take the inbound freight direct from the car or freight house to the place of business of the consignee—in other words, the service which is done in the United States by express companies. This transfer company could also call for outbound freight, and thus by giving attention to train schedules, could save time and floor space loading. This change in the system for handling freight has been considered by the War Council at Washington, and it is to be hoped that some favorable conclusion can be reached.

The present congestion in freight of the steam roads has thrown freight to the interurbans that is overtaxing their facilities to such an extent that efficiency in handling is out of the question. Large increases in facilities are financially impossible, but the remedy just suggested would permit an increase of 30 per cent in efficiency, without requiring any expenditure of capital and should be applied. The hardship to the customer in depriving him of the privilege to haul his own freight at his convenience would be more sentimental than actual. The benefit to the community in the increase in freight capacity and the shortening of the time of freight in transit would surely compensate for this loss in the privilege of delay in unloading.

It is also probable that such a system of freight delivery would decrease freight claims very materially, as shortage and breakage would be known immediately,



## Will Regulation Meet New Needs?

### Commission Counsel Raises Question Whether Municipalities Are to Pass on to Extension of Control Over Utilities

IN AN ADDRESS recently delivered before the Boston Chamber of Commerce, William L. Ransom, counsel Public Service Commission for the First District of New York, discussed various aspects of the relation between municipalities, electric railways and the public. Besides relating some of the experiences in New York City in connection with rapid transit construction and operation, he raised some important questions in regard to the future of public utility regulation.

According to Mr. Ransom, the electric railway industry has to meet increasing costs of operation, and the question is squarely raised whether the system of commission regulation and municipal franchise requirements, based upon the idea of curtailing rates and augmenting service, can be made now to operate flexibly in

*(Concluded from page 816)*

and while it is still possible to place the responsibility and apply preventive remedies. Stealing might also be materially lessened if shortages were promptly noted.

If the business address of the consignee was put upon all bills of lading, and the acceptance of freight was made dependent on such address, the trouble in sending out notices as under the present conditions would be greatly decreased. Notices could be mailed immediately upon receipt of the shipment, and, if desirable, notices of bulky receipts could be made by telephone to help relieve congestion. As a concrete suggestion for improvement, why not require the receiving agent to make out a postal card notice simultaneously with the original way-bill? These cards could follow the shipment in the hands of the conductor, and the receiving agent would simply have to apply postage and mail the cards immediately on arrival of the car.

An increase in the number of trailers would not be prohibitive. This might permit a more frequent service to major towns in carload lots, instead of loading all on a local freight train. These steel cars could be loaded at the convenience of the agent, and similarly unloaded at their destination. They could be hauled behind passenger trains and set out at their destination with a minimum delay to passenger service.

#### KEEP DRIVEWAYS CLEAR

The driveways provided for vehicles are generally entirely inadequate and materially slow down the rate of freight movement when congested. The agent, of course, is not apt to consider the raising of such blockade as a part of his duty, especially since it affords some relaxation for an overtaxed set of men in the freight house. Interurban freight house design should provide driveways wider than for a steam road house of the same dimensions and should always include a separate exit.

A comprehensive study of the freight problem by those interested should indicate other possible economies and means to greater efficiency, which could be used to the ultimate benefit of both customer and carrier.

the opposite direction. Will the public wish intra-urban fares to be raised, or will they seek an extension of municipal development in preference thereto? In Mr. Ransom's opinion, the country has a regulatory mechanism adapted to the disposition of complaints when made, rather than to constructive, affirmative, anticipatory handling of public utility problems.

As far as the legal barriers are concerned which stand in the way of the flexible working of regulation, Mr. Ransom conceived that they can be overcome, perhaps tardily but eventually, if the period of rising costs is prolonged and patriotic needs are found to require some abridgment of service. He believed, however, that the acceptable solution of this question of power is far from assurance that a plan of public control devised to protect the public from rates too high will prove a practicable means of protecting the public from rates so low as to destroy the capacity of the companies to serve the public in an adequate way.

#### PUBLIC CANNOT CONTINUE INDEFINITELY TO GET SOMETHING FOR NOTHING

The question whether a 5-cent fare should be continued on urban transportation lines is not, in the last analysis, one of public or private ownership. Mr. Ransom averred that no change in either ownership or operation can alter an economic formula of relationship between fares and expenses. The public cannot permanently get something for nothing or a public service long for less than cost, under any plan of ownership, operation or control that has been or can be devised. The cost of furnishing service must be borne either wholly by the fare-paying passenger or partly by the fare payer and partly by the taxpayer.

In regard to the surface lines in New York City, Mr. Ransom stated that these will never fulfill their function except as they are co-ordinated with the rapid transit lines on some basis protecting the public from the taking over of deteriorated and unnecessary properties at excessive cost, and then are radically readjusted and reorganized to meet their place in a modern transit plan.

Not later than the close of the war, in his opinion, will come the starting of plans for additional transit lines, into which the surface lines will be closely linked, and also an agitation for new contracts, in which the principal of municipal development and municipal responsibility will be much further extended. Moreover, the transportation utilities will be more closely correlated with the supply of such services as light, power and heat, for the better distribution of non-peak uses, greater economy in central station use of fuel and greater stability of supply to essential industries.

In closing, Mr. Ransom remarked that "the defiant manager of medieval cast of mind and the meticulous lawyer with his ignorance of the past ten years of judicial decisions are giving way to the remedial expert—the broad-minded specialist in public point of view—who faces facts unflinchingly, seeks points of agreement rather than divergence, realizes that controversies carry no passengers and would prefer a plan of operation to a law suit." This is as it should be stated Mr. Ransom, for the public utilities of to-day call for the highest qualities of constructive statesmanship.



## Massachusetts Suburban Lines Losing

**Commission Chairman Says that the Experiment  
of Extending City Service into Country  
Districts Has Been Disastrous**

**T**HERE is little doubt that the suburban and interurban service in Massachusetts has for a long time been furnished for less than its legitimate cost, in the opinion of F. J. Macleod, chairman Massachusetts Public Service Commission. Mr. Macleod expressed such a belief in an address on April 8 before the Economic Club of Brockton.

According to the speaker, electric railways in Massachusetts have undertaken the disastrous experiment of trying to extend to the country districts the ordinary type of city service. About the only company of the purely interurban type is the high-speed line formerly known as the Dartmouth & Westport, which is now consolidated with the Union Street Railway and operated on a private right-of-way between Fall River and New Bedford. That line has proved exceedingly profitable, and it may be that similar lines could be successfully operated between adjacent cities in other parts of the Commonwealth.

But the type of interurban transportation which is commonly furnished in Massachusetts, Mr. Macleod averred, has proved a serious drain upon the financial resources of the companies in the past, and it is extremely doubtful that it can be made profitable under any scale of rates. It may be possible to increase substantially the present revenues from these lines by placing their rates on a mileage basis, but so long as they operate an irregular and undependable service over public ways at a speed of 10 or 12 m.p.h. they cannot expect to charge railroad rates and compete successfully with present interurban railroad service.

Undoubtedly a serious error of judgment was made by those who conceived and carried out the various schemes of consolidation resulting in the present hybrid and diversified electric railway systems in Massachusetts. Their delusion, however, was a common one during the era immediately following electrification. Moreover, the policy pursued by the companies received not only the approval but the active encouragement of the Legislature and other public authorities.

Up to the present time, Mr. Macleod said, the lines operated outside of the thickly settled urban districts have been run at a substantial loss, and their continued operation has been possible only because their operating deficits have been met out of funds needed for maintenance and depreciation charges on city lines. The deficiency has been made up at the expense of the properties and of the investors. Such being the situation, the practical question arises as to what is going to be done about it.

The first problem is to determine whether all existing electric railway facilities are to be preserved. There is no doubt that a considerable portion of the present railway mileage in Massachusetts cannot be made self-supporting by any possible increase of rates. The fact that a line ought never to have been built, however, does not necessarily mean that it can now be abandoned to advantage. If a line earns enough to pay

the additional operating cost and a return upon the salvage value of the property, there is no financial gain in abandoning it, even if it must remain to some extent a drag upon the remainder of the system.

Where lines do not now earn and cannot be made to earn even that amount of revenue—and there are a large number of lines of that character—Mr. Macleod believed that the company can neither be forced nor reasonably be expected to carry such lines any longer at its own expense. If they are to be retained, the loss in operation must be met either by a direct contribution from the communities served or by a higher rate of fare upon the more prosperous lines. That is not a problem as between the company and the public, but one involving the difficult task of determining a proper distribution of the benefits and the burdens of transportation as between different communities served by the same system. In any event, the proper cost of the service which is retained must in some way be borne by the public.

### NO DEFINITE STANDARD FOR MANAGEMENT

In the practical application of this principle, Mr. Macleod said, it is necessary to determine to what extent the actual expenditures of the company represent the legitimate cost of operation. In making this determination it is necessary to eliminate all return upon watered stock or other speculative securities, the interest upon indebtedness representing wasteful or improper expenditures, and losses due to mismanagement or inefficiency of operation, all of which should rightly be charged against the stockholders. This is the most difficult problem in regulation because of the absence of any definite standard which could be used as a basis for determining mismanagement or inefficiency. Continuing, Mr. Macleod said:

“Electric railway managers, like all the rest of us in our own business affairs, may have made honest and carefully considered decisions which for the moment seemed to be wise, but which in the light of experience have proved to be mistaken. It is easy to be wise after the event, but it is given to no man to read the stars and guess the riddle of the future. The fact, therefore, that an electric railway has made mistakes is not in itself a proof of mismanagement. It must have sinned against the light and gone ahead with the danger signal brightly burning. Just where the line is to be drawn between justifiable error and mismanagement must remain in many cases a question of individual judgment and discretion, upon which honest men may reasonably differ.”

No increases in rates, Mr. Macleod said, should be allowed unless the legitimate need of such increases is clearly demonstrated. Any attempt on the part of the companies to force unwarranted and arbitrary increases should be vigorously resisted, both by the commission and the public at large. On the other hand, if an increase of rates is shown to be just and reasonable in order to respond to the increased cost of operation, there is no sound reason why it should provoke any greater resentment than the higher prices the public is obliged to pay at the present time for practically everything else. Electric railway service, judged by any reasonable standard of relative values, is the cheapest thing in the market to-day.





FLOATS MOUNTED ON TRUCKS OF UNITED RAILWAYS, ST. LOUIS, AND USED IN THIRD LIBERTY LOAN DRIVE

## Boosting the Third Liberty Loan

THE electric railways of the United States are behind the Third Liberty Loan to the last ditch. Many of them are in dire straits financially, but when it comes to backing Uncle Sam in this world conflict, and standing behind the boys in the front-line trenches, the railways are there as a unit.

Examples of patriotic co-operation in the Third Liberty Loan campaign are shown in the accompanying illustrations. One is a cover design of the Kansas City *Railwayman*, the weekly publication of the Kansas City Railways; another shows the advertising carried by the city cars of the same company, while the third is a pair of floats mounted on trucks of the United Railways of St. Louis.

This and the preceding Liberty Loan campaign have demonstrated the value of electric railway company publications of one kind and another in spreading information, kindling enthusiasm and inducing definite action. A model use of such an opportunity was the

letter on the loan by General Manager A. D. Mackie, which occupied the first page of last Saturday's *Springfield (Ill.) Utilities News*. It was addressed to employees but its appeal is to a wider circle.

An attractive feature of a recent issue of the *Railwayman* was the following acrostic:

Liberty for all.  
 Integrity of home.  
 Buy victory—Buy “war savings” and “thrift” stamps.  
 Every miser helps the Kaiser.  
 Raise your quota to make up for the dollar slacker.  
 Two bits a day—the patriot’s way.  
 You cannot act as though we were at peace.

Lend your money to Uncle Sam.  
 Others give their lives! What will you give?  
 America needs your help! Be true to democratic principles.  
 No power can stay a German victory but real sacrifice.



PATRIOTIC COVER OF THE "RAILWAYMAN" (K. C. RYS.) AND BANNER MOUNTED ON SIDE SHEATHING OF CITY CARS OF SAME COMPANY



## AMERICAN ASSOCIATION NEWS

### Atlantic City Selected for 1918 Convention

AS ANNOUNCED on the editorial pages in this issue the annual convention of the American Association and the affiliated associations will be held at Atlantic City, N. J., during the second week in October. There will be no exhibits. According to the tentative program so far prepared, the American Association meeting will open on Tuesday afternoon, Oct. 8, and close on Wednesday afternoon. The affiliated associations will meet Wednesday and Thursday mornings.

The Engineering Association committee on program, consisting of Martin Schreiber, Newark, N. J., chairman; E. R. Hill, New York City, and C. L. Cadle, Rochester, N. Y., met in New York on April 18 and prepared a tentative program. This was presented on April 19 at a meeting of the Engineering Association executive committee. The executive committee of the Transportation & Traffic Association also met on April 23 for the purpose of planning a program. Neither this nor the engineering program will be announced for some little time as conditions in the field are so variable as to warrant a postponement of the final plans. It was decided that in neither of these associations will any of the regular committee work be taken up for the present.

The T. & T. Association committee meeting was attended by L. C. Bradley, Houston, Tex.; W. H. Collins, Gloversville, N. Y.; R. P. Stevens, Youngstown, Ohio; L. H. Palmer, Baltimore, Md.; J. J. Dempsey, Brooklyn, N. Y.; H. B. Potter, Boston, Mass., and E. B. Burritt, New York City.

Those at the Engineering Association committee meeting were F. R. Phillips, Pittsburgh, Pa.; W. G. Gove, Brooklyn, N. Y.; C. S. Kimball, Washington, D. C.; C. L. Cadle, Rochester, N. Y.; and E. B. Burritt, New York City.

### J. W. Stephenson on "Electropneumatic Interlocking"

IN HIS PAPER on "Electropneumatic Interlocking" delivered before the Chicago Elevated Railroads company section meeting last month (see E.R.J., March 30, page 635), J. W. Stephenson, signal engineer of the companies, said some very interesting things regarding interlocking in general and on the Chicago property in particular. For instance, at Lake and Wells Streets tower on the Union Loop, 912 cars pass through in one hour and the number of lever movements in the tower per day averages 7700. An interlocking plant is provided at this point, as it would be too much to expect a man to do this work without such assistance.

Mr. Stephenson explained to the section, with the aid of lantern slides, that an interlocker is a collection of levers in a machine, so interconnected that the movement of functions will occur only in a predetermined way, in order to prevent the setting of conflicting routes. Movements in the machine take place as follows: (1) The signals and trips on all opposing routes are set in the "stop" position. (2) The switches, mov-

able point frogs and the trips in the route to be given are placed in the proper position and locked. (3) The signal for the route given is set at "clear." After a clear signal has been accepted by the motorman it is important that the route should not be changed while the train is passing over. This is prevented by means of a detector bar of steel lying close against the outside of the head of the rail and long enough to reach from truck center to truck center of the wheels. This is connected to the switch and locking device and supported by clips which raise it above the top of the rail. The bar cannot move when a car wheel is standing upon it or rolling over it.

Mr. Stephenson divided the several methods used in interlocking into four types; mechanical, electric, electromechanical and electropneumatic. He said that for conditions on the elevated property the electropneumatic interlocking was especially well suited. In any system simplicity and rugged construction of parts is a great factor in maintenance. Mr. Stephenson called attention, however, to the importance of the human element in successful maintenance. In applying the company's motto "Keep traffic moving," 2 per cent of success is due to ingenuity and 98 per cent to hard work. Success depends upon having replacement parts ready, testing for trouble before it happens, systematically inspecting plants, etc. "What we need in these strenuous times is the man who shows signs of wear at the knees rather than at the seat of his pants."

### Capt. E. J. Blair Addresses Section No. 6

THE meeting of the Elevated Railroads (Chicago) section, held on April 20 with an attendance of 125, was of a patriotic character. Capt. E. J. Blair of the 311th Engineers, electrical engineer of the company, described the training at Camp Grant and gave much information regarding conditions on the western battle front in France. Capt. Hart E. Fisher of the Medical Reserve Corps took up the medical side of the work in the army.

The Third Liberty Loan was the other prominent feature of the discussion. A report showed that \$200,000 had already been subscribed by company employees to this loan. Patriotic hymns and other music were interspersed with the talks.

### Manila Section Growing Apace

AT THE MEETING of joint company section No. 5, held at Manila on Feb. 12, the membership committee presented the names of fifty-three applicants. Of these forty, or 75 per cent, were from the transportation department. This increase brought the membership to 197.

At this meeting P. Castillo, carhouse starter, spoke on "Some of the Duties of a Carhouse Starter," and M. Fariñas, traffic inspector, spoke on "Trainmen as Witnesses." At the March 5 meeting the speaker was I. G. Obligacion, chief clerk transportation department, whose topic was "The Menace of the Transfer." Abstracts of the papers mentioned, and of the accompanying discussions, will be given in a later issue of the ELECTRIC RAILWAY JOURNAL.



# News of the Electric Railways

TRAFFIC AND TRANSPORTATION

FINANCIAL AND CORPORATE • PERSONAL MENTION • CONSTRUCTION NEWS

## Agree on Use of Union Button

This Matter a Problem for Kansas City Railways After Sympathetic Strike Settlement

When the employees of the Kansas City (Mo.) Railways who did not join the strike returned to work on March 29, they were advised in the cases of union men not to wear their buttons in conspicuous places. This suggestion was made in order to avoid possible violence from strike sympathizers who might resent more the presence of union men on the cars than they would the presence of non-union men.

Later an agreement was signed in the nature of a statement to employees, covering the whole button subject. At the same time, a statement was made signed by W. D. Mahon, president of the Amalgamated Association, to the effect that future disputes and the making of a new contract in August should be settled by conciliation or arbitration, and that there should be no strikes.

The agreement signed by Col. Philip J. Kealy, president of the Kansas City Railways, and Mr. Mahon in so far as it relates to the use of the button is as follows:

"President Mahon's understanding was that upon their return to work the men would be permitted to wear their organization buttons, whereas the company's position was that it was necessary to discontinue the wearing of buttons in order to avoid taunts, threats of violence and intimidation being made to those men who continued to operate their cars during the past four or five days. In a sincere endeavor to furnish immediate service to the public, the following agreement has been reached:

### PROVISIONS OF THE AGREEMENT

"1. The men will return to work immediately with the liberty of wearing their buttons.

"2. The order of the company prohibiting wearing of buttons is hereby revoked. The intent of the company in issuing said order, that is, that the men who continue their work will be protected from intimidation, taunts and violence, is met by the assurance of Mr. Mahon that there will be no discrimination raised against any employee who does not wear the button. It is also further understood that employees who did work during the present controversy and are members of the organization shall have the right to wear their button and that the members of the association will do everything within their power to create harmony and establish a good feeling between all employees and the general public.

"This provision as to the wearing of buttons shall not be compulsory, but every member of the organization has the absolute right to wear it or not to wear it, as he desires.

"It is further agreed and understood that the consent of the company to revoking its order and permitting the wearing of the button is conditioned upon President Mahon's assurance that discrimination, threats of violence or injury shall be discontinued, and if, in the future, this condition shall not be fulfilled, then the right to continue wearing the button shall be a matter of arbitration."

That the railway had gaged correctly the possible trouble from the wearing of union buttons was indicated in an attack on a car the day following the end of the strike. Three men threw stones at the end of a car manned by a union conductor who had worked during the general strike. The motorman on this car was a union man who had not worked.

## \$500,000 for Improvements

Dallas City Commission Sanctions Expenditures Under Service-at-Cost Grant of Dallas Railway

The City Commission of Dallas, Tex., has approved applications covering proposed improvements to be made by the Dallas Railways amounting to approximately \$500,000. These improvements are to be made in accord with provisions of the service-at-cost franchise which stipulated that improvements of this amount should be made on the lines in the city. Among the improvements which have been approved are the following projects:

Purchase of twelve one-man cars to take the place of obsolete equipment, \$64,710.

Special track work at Cantegral and Bryan Streets, to enable trailers to be operated over the Bryan Street line, \$12,805.

Rebuilding 80 ft. of double track on Colorado Street at the intersection of Marsalis Avenue, made necessary by the paving of Colorado Street, \$1,920.

Purchase of a concrete mixer and other equipment for track construction work, \$16,655.

Special track construction work at Commerce and Lamar Streets, to permit routing the Oak Cliff cars to Elm Street via Lamar from Commerce, necessary under the plan to route the Oak Cliff cars for crosstown lines, \$20,720.

Removal of single track on Columbia Avenue, Beacon and Tremont Streets from Garrett to Fulton Street, so that double track may be put down, \$76,860.

## Cleveland Wage Discussion

Proposals and Counter Proposals Made, but Prospect Is That Resort Will Have to Be Made to Arbitration

At a second wage conference on April 19 John J. Stanley, president of the Cleveland (Ohio) Railway, made two new wage offers to the motormen and conductors, who are demanding an increase of 25 cents an hour, when their present contract expires on May 1. The first includes an increase of 5 cents an hour and a bonus of 5 cents an hour for all who worked between Nov. 1, 1917, and May 1, 1918, and are now employed by the company. This is practically the same offer made to the men last November. The contract is to run for one year from May 1.

This would mean a waiver by the company of its demand for an open shop and the employment of women, with a continuance of existing agreements on other issues. It would be a waiver by the men of their demands for a change in the working hours.

As an alternative proposition, Mr. Stanley suggested that men be employed as motormen and women as conductors, the men to have an increase of 10 cents an hour and the women to receive the present wages of the men, from 32 to 35 cents an hour. All male conductors physically able and competent would be shifted to positions as motormen.

Should both offers be rejected, Mr. Stanley demands that the issues be submitted to arbitration, with an increase in wages of 2 cents an hour pending the decision of the board of arbitration. The men fixed upon the night of April 22 to consider these proposals, with the exception of the one relating to women conductors. The exception was made because this was not included in the original letter on the proposals.

The employment of women as conductors was discussed at a conference on April 20 between Mr. Stanley and the representatives of the men. The men argued that a sufficient increase in the wage scale would induce men to seek employment with the road. Mr. Stanley made his proposition with regard to women a part of the original offer submitted on April 19.

The men replied to Mr. Stanley by stating that they would willingly cooperate in securing women for conductors if a material increase in wages did not supply enough men.

The executive board of the union notified Mr. Stanley that his proposition would be submitted to the men, but that it would probably not be accepted.

Hundreds of applications have been received from women for jobs on the cars.



## Fare Should Be Flexible

### President McCulloch Declares that Ideal Ordinance Should Permit Readjustments Under Changing Conditions

Richard McCulloch, president United Railways, St. Louis, Mo., in an address before the City Club on April 19, stated that the proposed compromise ordinance for his company lacks the ideal feature of a flexible fare provision. The course of this ordinance, which was signed by the Mayor on April 10, has been followed from week to week in these pages.

Mr. McCulloch did not indicate positively what the company would do about accepting the ordinance, but he expressed a hope that it would be accepted by "both parties." The company has one year in which to file an acceptance, or six months after the end of the war if hostilities last longer than a year.

#### OUTLINE OF ORDINANCE

According to Mr. McCulloch, the principal features of the ordinance are as follows:

1. The franchise rights of the United Railways are validated until April 12, 1948.
2. The company is required to reduce its outstanding mortgage indebtedness and capital stock to the capital value established in the ordinance.
3. A board of control, consisting of one member appointed by the city and one member appointed by the company, shall pass upon all proposed extensions, additions and betterments, and on all charges to capital account. In the event of disagreement a third temporary member shall be appointed by the St. Louis Court of Appeals.
4. The city has the right, after the expiration of ten years, and at any five-year period thereafter, to purchase the railway system at its then capital value.
5. The capital value of the property is established at \$60,000,000, plus the cost of any additions or betterments made to the property after the taking effect of this ordinance. This capital value is subject to a valuation to be made by the Missouri Public Service Commission.
6. At the expiration of the franchise, if the city grants a new franchise to another party, the city shall require this grantee to purchase the property of the company at its then capital value.
7. The rate of fare is established within the city limits at 5 cents for adults and 2½ cents for children, with the provisions that if, and when, the Missouri Public Service Commission or other legally constituted rate-making authority shall have the jurisdiction lawfully to alter these rates, then the rate of fare shall be such as shall be lawfully ordered by such authority. Free transfers are required under the same conditions.
8. The company is authorized to haul mail, express and freight under certain conditions, and may install switch tracks from its main lines for this purpose.
9. The standards of service prescribed by the Missouri Public Service Commission in its order of May 4, 1915, are written into the ordinance.
10. The company is required to pay the unpaid mail tax and interest accrued thereon (approximately \$2,300,000) in ten annual payments, the first payment being due within thirty days after the final approval of the ordinance by the city of St. Louis.
11. The United Railways is required to pay one-half of 1 per cent of its gross receipts in lieu of mill tax and all franchise taxes. This tax may be increased at any time during the life of the franchise to not exceeding 3 per cent of the gross receipts.
12. All net earnings in excess of 7 per cent of the capital value may hereafter be required by ordinance to be paid to the city as a franchise tax, or may be applied by the board of control for the reduction of fares or the reduction of capital value.

#### ORDINANCE IS NOT IDEAL

In Mr. McCulloch's opinion, the ordinance is not ideal from the standpoint of either the city or the company. It is, however, probably the best com-

promise that can be agreed upon at the present time. Continuing, Mr. McCulloch said:

"Under the circumstances a referendum vote on this ordinance, which was passed by the Municipal Assembly by a vote of twenty-eight to one would merely serve to delay a settlement which is a fairly good solution of a difficult problem. The city would be put to the expense of an election, and the company would be delayed at least six months in adjusting its affairs. No one would profit by this delay. The settlement is not an ideal one, but it is one which we hope will be accepted as a compromise by both parties.

"If you ask me to suggest the terms for an ideal franchise, I would begin by stating that with absolute regulation should come absolute protection. The only manner in which such protection can be afforded is by establishing a flexible rate of fare, which may be adjusted automatically from time to time, so as to guarantee always good service, fair wages and a sure return upon the investment. This is service at cost, and if the terms are sufficiently attractive, and if the methods of fare adjustment are not too slow and clumsy, all the capital necessary can be produced."

## Perpetual Franchise in Covington

### Federal Supreme Court Decides in Favor of South Covington & Cincinnati Street Railway

On April 15 the Supreme Court of the United States handed down a decision in the case of the city of Covington, appellant, vs. South Covington & Cincinnati Street Railway which came before the court as an appeal from the District Court for the Eastern District of Kentucky. The question at issue was whether the franchises of the company had expired.

Testimony showed that in December, 1869, an ordinance was passed by the city granting to Edward F. Abbott and others "all the right and authority that it [the city] had the capacity to grant, to construct, hold and operate a street railroad upon and along" certain streets. Soon after, the Covington & Cincinnati Railway, the predecessor of the present company, was organized.

The city claimed that in a previous street railway franchise to the Covington Street Railway, an entirely different corporation, granted in 1864, the city had declared "all contracts made under the provisions of this ordinance shall be for the term and period of twenty-five years," and that this limited the Abbott grant. The Supreme Court held otherwise, however. Under subsequent ordinances the South Covington & Cincinnati Street Railway acquired the

property of the Covington Street Railway, but the Supreme Court held that this also did not affect its perpetual franchise in the streets covered by the Abbott grant.

The court laid stress upon the authority of *Owensboro vs. Cumberland Telephone & Telegraph Co.*, 230 U. S. 58, whose authority it pronounced complete. The opinion of the court was delivered by Justice Holmes.

Justice Clarke presented a dissenting opinion, based partly upon his construction of the grant to Abbott and also because he held that the city did not have authority from the Legislature to make the grant claimed.

## Puts Himself In the Other Man's Place

### Head of Claims Department Becomes Motorman for Experience So As to Help Him in His Court Work

The testimony of the motorman is usually the first and most important information desired by the claims department in accident cases, and it is frequently essential that the attorney get an accurate understanding of the motorman's viewpoint.

In order to facilitate this, F. M. Hamilton, superintendent of the department of accident investigation of the Puget Sound Traction, Light & Power Company, Seattle, Wash., has completed the course of training prescribed for motormen and does, in fact, operate a car through the city streets frequently enough to "keep in practice."

He says that the advantage which this gives him in discussing accidents with motormen has been notable, and it has become known among the company's men that statements about the action of brakes, the distance required to bring a car to a stop, etc., will be questioned intelligently by the legal department.

In addition to a better understanding of the motorman's point of view, experience in operating the car enables the attorney to present his case more convincingly when questions arise in the court, and altogether the expenditure of the time required to become proficient as a motorman is pronounced an excellent investment.

## Moderation in Toledo

### Railway Men, Recognizing Problems of the Company, Against Hasty or Insistent Action

It was reported that the motormen and conductors of the Toledo Railways & Light Company, Toledo, Ohio, issued an ultimatum on the evening of April 17 in which the company was given forty-eight hours to decide upon an increase of 10 cents an hour in the wage scale. Afterward officers of the union stated that the action was not intended as an ultimatum, but that the men are anxious to arrive at a settlement just as soon as possible.

Frank R. Coates, president of the company, said that the men should have



an increase in consideration of the prevailing high prices of every necessity, but the company could grant the demand only on condition that the city consent to a raise in the rate of fare to 8 cents.

On the evening of April 18 Federal Mediator A. L. Faulkner, Cleveland, addressed the Central Labor Union. He declared that the only way the company could grant an increase was by securing a higher rate of fare. He believed the recent audit of the books to be correct. That investigation showed that the high cost of materials and operation has so increased the company's expenses that it could not pay the men more without additional income. Mr. Faulkner advised the labor organizations to take the lead in seeking permission for an increase in the rate of fare as a means for securing sufficient funds to allow the company to grant the men's demands. Mr. Faulkner advised against a strike.

The men were to vote upon the question of a strike after this meeting. The Central Labor Union approved their contention, but advised moderation in the steps taken to enforce their demands. The men discussed the question in a broader manner at their meeting and decided to delay action pending plans for placing the question of higher rates of fare and lighting service before the voters for consideration.

### Arbitration in Minnesota

Submission of all labor disputes in Minnesota to arbitration during the period of the war is ordered by the Minnesota Public Safety Commission in an action taken following conferences of representatives of both employees and employers with Governor J. A. A. Burnquist. The order merely makes effective an agreement by both employers and employees, secured by the Governor's activities.

The order of the Public Safety Commission follows recommendations submitted by the board of arbitration made up of Raymond F. Schroeder, St. Paul, representing organized labor, and Robert F. Pack, Minneapolis, representing employers of labor, after a series of conferences with Governor Burnquist to carry out a plan initiated in a recent proclamation issued by the Governor.

An amiable adjustment of the differences between the Twin City Rapid Transit Company, Minneapolis, and its employees, providing for restoration of former employees, is being made through the State board of arbitration and conciliation.

### Detroit Men to Arbitrate

The strike of the trainmen in the employ of the Detroit (Mich.) United Railway, declared on April 25, will be settled by arbitration. The men had demanded an increase in wages which would have aggregated about \$1,000,000 for the year. Operations of the railway are said to have been pretty completely suspended during the few hours the men were out.

## Civic Associations Would Aid

### Propose to Help Portland Company by Securing Elimination of Charges Not a Part of Railway Operation

The City Council of Portland, Ore., on April 16 voted to submit to the voters at the special election on May 17 the question of opening a way for the elimination of paving, bridge tolls and other charges now imposed on the Portland Railway, Light & Power Company. These charges enter into the general burden on the company which finally made necessary a 6-cent fare.

#### CIVIC ASSOCIATION'S HELP MOVEMENT

The measure has been prepared by eight civic organizations of the city which are striving in a fair way to bring about a return of the 5-cent fare. It is merely an enabling act giving the City Council power to eliminate these charges if such action is considered advisable or reasonable. The act itself does not alter the charges, but places in the Council's hands the power to take such action or to reinstate the charges. The act carries a provision for a special tax levy of four-tenths of a mill (\$112,000) to make up for the city the revenue that would be lost by such an arrangement.

L. M. Lepper, secretary of the East Side Business Men's Club of Portland, in a letter to the Public Service Commission of Oregon, informed the commission that committees representing eight civic clubs of Portland have drawn amendments to the Portland city charter for the elimination of certain charges required of the company, to the end that the fare be set back to 5 cents. The letter further stated:

"If the City Council places such amendments on the ballot at the coming election, and they are voted by the people, enabling the Council to eliminate such charges, and the Council does eliminate them, and conditions remaining as they are at present as to prices, upkeep, etc., then and in that event, when so eliminated, will you, the Public Service Commission, now indicate and promise that immediately upon such elimination and relief to the company, you will order fares back to 5 cents?"

#### COMMISSIONERS STATE THEIR ATTITUDE

In two answers to Mr. Lepper's communication the Public Service Commission made plain its attitude as to the reduction of fares in the city of Portland, in the event of passage of the city charter amendments. The commission in effect declares that action by it will depend largely upon conditions existing at the time the amendments go into effect.

One of the answers is signed by Commissioners Miller and Corey, as a majority of the commission, and the other by Commissioner Buchtel. After reciting the query from Mr. Lepper as to the commission's attitude, Commissioners Miller and Corey say, in part:

"The increased fare was ordered only after we had satisfied ourselves that

such increase was absolutely necessary to preserve the integrity of the property for the use of the public and prevent the company going into bankruptcy. No allowance whatever was made for a return on the company's investment, nor was sufficient increase allowed to provide for extra operating costs.

"During the period of the war, or until conditions again become normal, the company must forego any interest on the money now invested in this utility and share with the public the burdens imposed by present unusual situations.

"If it is right, just and proper for the rider to continue to pay for paving, bridge tolls, free transportation of city employees, license taxes, etc., assessed against the company, then no effort should be made to remove such burdens, but if on the other hand it is not fair and equitable for the patrons of the company to pay such charges, then they should be removed.

"Should the company be relieved from the necessity of paying these above mentioned charges, this commission will take full and complete cognizance thereof and make such reductions in fares as reductions in operating costs or increase in revenue will permit, bearing in mind the necessity of maintaining the present rate of wages paid to employees, the existing conditions and adequate service.

"Whenever it becomes possible to order the return to a 5-cent fare we will gladly do so."

Commissioner Buchtel states if it develops that a 5-cent fare is sufficient for successful operation of the company he will not hesitate to move to have it reinstated.

### Railway Conservation Study Proposed

The commercial economy board of the Council of National Defense has arranged with Addis Whitney, Boston, Mass., to come to Washington in the near future to study and report on opportunities in conservation among the public utilities of the country as a war measure.

The board, of which A. W. Shaw, Chicago, Ill., is chairman, has been instrumental in bringing about various economies in different industries, notably among department stores, laundries, etc., by eliminating overlapping deliveries, preventing the return of goods sent on approval, etc.

Mr. Whitney has made a preliminary visit to Washington for conferences with officials and has returned to his home in Boston. It is expected in Washington that two or three weeks will be required for his study. Mr. Shaw states that the survey to be made by Mr. Whitney will take in possibilities of conservation in the use of capital, material, etc., used by the electric railways.



## News Notes

**Mayor Signs St. Louis Ordinance.**—Mayor Kiel of St. Louis, Mo., has signed the ordinance extending the franchise of the United Railways to April 12, 1918. An outline of the terms of the measure made by President McCulloch of the company is published elsewhere in this issue.

**Wage Increase in Omaha.**—The Omaha & Council Bluffs Street Railway, Omaha, Neb., has granted a voluntary increase in wages of 2 cents an hour to the operating force of the company, and has authorized the readjustment of the wages of the other employees of the company. This is the third voluntary increase of wages made by the company since the war began.

**Wage Advance in Honolulu.**—A voluntary increase was made on April 1 by the Honolulu Rapid Transit & Land Company, Honolulu, H. I., in the wages of its platform men. The scale formerly ranged from 30 cents for the first year to 40 cents for the eleventh year, an advance of 1 cent each year. The increase of 1917 added 10 per cent to these rates. The rates just adopted range from 35 cents for the first year to 45 cents for the eleventh year.

**New Offices for International Railway.**—Executive offices of the International Railway, Buffalo, N. Y., which have been located on the eighth floor of the Ellicott Square Building for almost twenty-five years, will be moved on May 1 to the Littell Building at Franklin and West Huron Streets. All of the company's other offices with the exception of those located at the Virginia Street station will be moved to the new location.

**Wage Increase Asked in Worcester.**—Conductors and motormen in the employ of the Worcester (Mass.) Consolidated Street Railway have presented to the management of that company a request for an increase in wages and a readjustment of the working conditions. While the terms of the request have not been disclosed, it is believed the men ask for a minimum of 30 cents an hour. The wages now range from 28½ to 34½ cents an hour.

**Wage Arbitration in Dubuque.**—The threatened strike of the railway employees of the Dubuque (Iowa) Electric Company has been prevented, both sides agreeing to submit the question to arbitration. The men are asking for a wage increase of approximately 25 per cent. Governor Harding has appointed Judge S. F. Prouty, Des Moines, as arbiter for the Dubuque Electric Company and Judge M. C. Chambers, Dubuque, as arbiter for the men. These two will decide between themselves upon the third arbiter.

**Gross Receipts Tax Suit.**—On April 20 arguments on the demurrer of the Puget Sound Traction, Light & Power Company against the suit of the city of Seattle, Wash., to collect \$72,443, as 2 per cent of the gross receipts of the company's earnings for 1917 was heard in the Superior Court. A similar action in 1916, in which judgment was granted against the company, is on appeal before the Supreme Court. This year the company offered to pay the amount if relieved of other obligations under its franchise. The city of Seattle refused the offer.

**Cincinnati Franchise Revision Hearings May 11.**—Public hearings for a discussion of terms which shall go into a revision of the franchise held by the Cincinnati (Ohio) Traction Company will be started on May 11 by the committee on street railroads of the Council under the terms of a resolution drawn up at a meeting of the committee for submission to the City Council. The resolution recites that the Council has had up for consideration the matter of revising the terms and conditions of the franchise, as provided by law and that this revision "is not yet completed."

**Sir Adam Beck Favors Utility Monopolies.**—Sir Adam Beck, chairman of the Hydro-Electric Power Commission of Ontario, Canada, presented a strong argument before a committee of the United States House of Representatives in Washington on April 15. In speaking before the joint special water-power committee of the House, on the so-called "administration" water-power bill now under consideration by that body, the chairman of the Ontario Commission described some of the difficulties which have confronted the public and the public utilities in and around Ontario in recent years, and some of the work that has been done and some that remains to be done in developing electrical energy.

**Wage Discussion in Salt Lake.**—Negotiations are pending looking to the settlement of differences about wages and working conditions existing between the Utah Light & Traction Company, Salt Lake City, Utah, and its employees. The principal point of difference appears to be over the use of one-man cars. The company has demanded that this point be discussed with that of the proposed wage increase. The men deny the right of the company to inject this point into the discussion at this time. The company has requested that the question be submitted to arbitration along with the wage matter.

**Wage Advance and Increase in Fares Suggested.**—James J. Barrett, federal commissioner of conciliation, who has been in Des Moines, Iowa, in an effort to settle the wage dispute between the master builders and their laborers, has filed a report with the City Council in which he states that he has investigated the wage conditions of the employees of the Des Moines City Railway and thinks that their request for an increased wage should be granted. In his opinion that section of the City

Railway's franchise which provides six-for-a-quarter tickets should be eliminated and a straight 5-cent fare established. Mayor Thomas Fairweather states that the only way the franchise can be changed as to rates is by a vote of the people.

**Kansas City Police Reinstated.**—An echo of the strike of August, 1917, of the employees of the Kansas City (Mo.) Railways was heard at the city hall recently when the Board of Police Commissioners reinstated twenty-eight policemen. These men were discharged during the strike for refusing to ride on cars with strike breakers. It will be remembered that in several cases policemen had refused to protect electric railway property against strike breakers, and had failed to make arrests of strikers and sympathizers who were threatening and actually committing depredations and attacking employes of the company. During the recent sympathetic strike the police promptly gave all the protection possible with the number of men in the service. In this case the work of the police was supplemented by troops from the Missouri National Guard.

## Programs of Meetings

### National Association of Manufacturers

The National Association of Manufacturers will hold a meeting in New York on May 20-22. The headquarters will be at the Waldorf-Astoria Hotel.

### National Electric Light Association

The thirty-fourth annual meeting of the National Electric Light Association will be held at the Hotel Traymore, Atlantic City, on June 13 and 14.

This will be a strictly business meeting, without entertainment of any kind. It will concern itself entirely with the vital problems of the industry arising out of the war. No papers will be read. Reports from committees and individuals and discussions will be confined to matters of major importance, and the brief two days will allow no time for the usual helpful discussions on general topics relating to the progress of the art.

### National Lumber Manufacturers' Association

The sixteenth annual meeting of the National Lumber Manufacturers' Association, postponement of which was noted in the ELECTRIC RAILWAY JOURNAL, issue of April 6, will be held on May 20 and 21 at the Congress Hotel, Chicago.

Postponement of the meeting as originally arranged for April 8 and 9 has been due to an unanticipated call from Washington upon the leaders in the lumber manufacturing industry. There is a possibility of further postponement as the lumber manufacturers' association takes the stand of Washington first and annual meetings second, but it is believed that no further delay will develop to prevent the program from being carried out on May 20 and 21.



# Financial and Corporate

## Receivers for Pittsburgh

Messrs. Callery, Stewart and Fagan Will Manage Affairs of Much-Harassed Electric Railway

James D. Callery, H. S. A. Stewart and Charles A. Fagan were appointed receivers for the Pittsburgh (Pa.) Railways on April 23 by Judges W. H. S. Thomson and Charles P. Orr in United States District Court. They organized during the afternoon and made temporary arrangements for the operation of the company's property.

### WHO THE RECEIVERS ARE

Mr. Callery is chairman of the board of directors of the Pittsburgh Railways. He has been made chairman of the receivers. Mr. Fagan is a leading attorney. Mr. Stewart is vice-president of the Fidelity Title & Trust Company, Pittsburgh. He was an associate of the late C. L. Magee in the building of many of the railways now included in the system of the Pittsburgh Railways.

After the receivers had organized, Mr. Callery made the following statement:

"There is misapprehension as to the receivers representing particular interests. All the receivers represent the stockholders of the company, its creditors and the public. There is every reason to believe that there will be harmonious action to protect all these interests. We shall hold daily meetings and in a few days will likely be ready to announce the policy which will guide us. Our work to-day was merely to make temporary agreements for the carrying on of the customary business to the end that the service to the public shall not suffer any interruption by reason of the change in control."

The system will continue to be operated under P. N. Jones as general manager. Other officers and employees of the Pittsburgh Railways were appointed to positions necessary to be filled immediately under the receivership. The negotiations for a new wage scale will be continued as heretofore.

In addition to the appointment of Mr. Callery as their chairman and that of Mr. Jones as general manager of the operation of the railway system the receivers on April 23 appointed J. L. Foster treasurer to succeed C. J. Braun, Jr.; E. E. Ebranz secretary, and J. A. Meade auditor. The continued employment of subordinate clerks and other employees was provided for.

It is reported that S. L. Tone will be retained as consulting engineer.

Present for the Pittsburgh Railways at the hearing in court were President S. L. Tone, Manager Jones and Attorneys D. W. Smith and A. W. Robert-

son. Attorney George B. Gordon was on hand for the American Brake Shoe & Foundry Company of Delaware and the St. Louis Car Company, St. Louis, Mo., in whose names the application for the receiver was made.

In the order appointing the receivers the court directed them to give bond in the sum of \$25,000 each. This they did later in the day.

## Refinancing in Washington

Slowness in Organizing War Finance Corporation Embarrassing to Utilities—Capital Issues Committee Reduces Minimum

The delay in the organization of the War Finance Corporation, the enabling act for which was recently signed by President Wilson, has been seriously worrying a number of large public utilities having finance maturities on May 1. Reports reaching Washington show that between \$15,000,000 and \$20,000,000 of utility securities will in all likelihood go by default on May 1 unless there is assistance from governmental sources.

Undoubtedly the administration recognizes this fact, and in spite of the demands for time made upon many of the leading officials in connection with the Liberty Loan campaign, is taking steps to complete the organization of the War Finance Corporation. On April 25 it was reported from Washington that the nominations of four men to be directors of the corporation had been decided upon and would be announced shortly.

At its meeting April 23, the capital issues committee of the Federal Reserve Board adopted the following resolution:

"Resolved, that, effective immediately, this committee reduce from \$500,000 and over to \$100,000 and over the minimum of security issues of industrial and public utility corporations that it will consider."

This action is taken by the committee in furtherance of its policy heretofore expressed of adapting its methods to those prescribed for the guidance of the capital issues committee created by the war finance corporation act which, in Section 203, provides that the committee may consider applications of \$100,000 and over.

The committee has heretofore observed the \$100,000 minimum only with respect to municipal issues. Its action on Tuesday will tend to relieve the embarrassment of those desiring to issue at this time securities the aggregate of which is above the minimum prescribed by the statute and yet below the minimum heretofore considered by the existing committee.

## Inland Empire Faced Hard Problems

Interurban Passenger Situation Improved in 1917, but Poor Crops Hurt Freight Traffic

That the private ownership of automobiles for pleasure purposes has reached its peak is intimated in the annual report of the Spokane & Inland Empire Railroad, Spokane, Wash., for the calendar year 1917. The slight decrease in interurban passenger earnings, only 1.6 per cent, as compared to large decreases in previous years, is taken as a favorable sign.

### EVEN FREIGHT EARNINGS DECREASE

The freight earnings on the interurban lines decreased \$42,098, or 12 per cent, during 1917. The decrease was due almost entirely to the poor grain crop caused by the unusual condition of a late, cold spring and a hot, dry summer. The grain traffic handled was approximately 819,747 bushels, as compared to 1,390,168 bushels for the previous year. During the latter half of 1917 the shipment of lumber was seriously curtailed by the car shortage, and the company has been short of sufficient equipment to handle the business offered.

The territory served by the interurban lines has a better crop prospect than last year and the prices fixed by the government guarantee a good return, so that a large movement of agricultural products may be expected. There is also a good prospect of a heavy movement of lumber during the coming season, provided the necessary supply of equipment can be obtained to handle it.

The revenue from the operation of the street car lines in the city of Spokane showed an increase of \$4,542 or 1 per cent as compared with last year. The increase in revenue from other sources amounted to \$28,022 or 40.7 per cent, owing largely to rental received for equipment held by foreign lines on account of the congestion of traffic in Eastern states. The total railway revenue decreased \$15,095 or 1.2 per cent.

### OPERATING EXPENSES CLIMB

The operating expenses show a substantial increase in every department except cost of power, which fell off \$56,244 or 55.8 per cent. As the contract with the Washington Water Power Company has expired, the company's lines are now operated entirely by power from its own station. The total expenses rose \$20,583 or 1.8 per cent.

The net revenue from railway operations, therefore, fell off \$35,649 or 34.1 per cent. The revenue from auxiliary operations also decreased 24 per cent, while taxes and income deductions rose 7.2 per cent and 5.7 per cent respectively, so that the net return of the year was a deficit of \$462,001 as compared to \$359,953 in 1916, an increase of 28.4 per cent.



The Adamson law forced heavy increases in wage schedules of motormen and trainmen, and the company made voluntary increases in the compensation of other employees to meet the high

last winter on petition of Mrs. Margaret Milford and other creditors, who held a large amount of bonds issued by the company. The line had not been operated for some time.

miles of line of companies scattered throughout the country, figured on the per mile of line basis, indicate a decrease in operating revenues of 0.29 per cent, an increase in operating expenses of 12.59 per cent and a decrease in net earnings of 24.38 per cent. Data representing 5753 miles of line show an increase in the amount of taxes paid of 4.55 per cent and a decrease in operating income of 37.91 per cent.

COMPARATIVE INCOME STATEMENT OF SPOKANE & INLAND EMPIRE RAILROAD FOR CALENDAR YEARS 1917 AND 1916

	1917		1916	
	Amount	Per Cent	Amount	Per Cent
Freight.....	\$ 307,946	25.1	\$ 350,045	28.2
Passenger.....	352,297	28.7	357,859	28.8
Street railway system.....	469,712	38.3	465,170	37.5
Other revenue.....	96,952	7.9	68,928	5.5
<b>Total railway operating revenue.....</b>	<b>\$1,226,909</b>	<b>100.0</b>	<b>\$1,242,005</b>	<b>100.0</b>
Way and structures.....	\$ 296,539	24.2	\$ 293,594	23.7
Equipment.....	295,470	24.1	254,556	20.5
Power.....	44,533	3.6	100,778	8.1
Conducting transportation.....	384,074	31.3	354,245	28.5
Traffic.....	17,836	1.4	17,120	1.4
General and miscellaneous.....	124,441	10.1	121,059	9.7
Transportation for investment—credit.....	5,030	0.4	4,045	0.3
<b>Total railway operating expenses.....</b>	<b>\$1,157,864</b>	<b>94.4</b>	<b>\$1,137,311</b>	<b>91.6</b>
Net revenue from railway operations.....	\$ 69,045	5.6	\$ 104,694	8.4
Auxiliary operations—net.....	86,689	7.1	117,824	9.5
<b>Net operating revenue.....</b>	<b>\$ 155,734</b>	<b>12.7</b>	<b>\$ 222,518</b>	<b>17.9</b>
Taxes accrued.....	121,467	9.9	113,356	9.1
<b>Operating income.....</b>	<b>\$ 34,267</b>	<b>2.8</b>	<b>\$ 109,162</b>	<b>8.8</b>
Other income.....	4,667	0.4	4,616	0.4
<b>Gross income.....</b>	<b>\$ 38,934</b>	<b>3.2</b>	<b>\$ 113,778</b>	<b>9.2</b>
Deductions.....	500,936	40.8	473,731	38.1
<b>Deficit.....</b>	<b>\$ 462,002</b>	<b>37.6</b>	<b>\$ 359,953</b>	<b>28.9</b>

REASONS FOR SHOWING

The returns from the city and inter-urban electric railways, as shown in detail in the accompanying table, have been classified according to the following geographical grouping: Eastern District—East of the Mississippi River and north of the Ohio River. Southern District—South of the Ohio River and east of the Mississippi River. Western District—West of the Mississippi River.

Of the three groups shown, all indicate a considerable increase in operating expenses, while only one, the Western, displays an increase in operating revenues. As pointed out above, this condition is largely due to both the unusually severe winter and the acute fuel shortage which the Eastern district in particular has had to face. Returns for the latter group indicate a decrease in earnings of 2.29 per cent, an increase in operating expenses of 13.80 per cent and a consequent decrease in net earnings of 33.33 per cent.

As compared with the Eastern group, the Southern and Western have done comparatively better, though even the South shows a decrease in net earnings of 12.65 per cent, and the West one of 6.20 per cent.

OPERATING RATIO CLIMBING

The operating ratio for all groups has increased, particularly that of the Eastern district. The operating ratio for the country as a whole has increased from 65.19 per cent in 1917 to 73.60 per cent in 1918.

cost of living and to equalize the compensation of its employees with that paid by other lines.

Electric Railway Statistics

Returns for January, 1917 and 1918, Show Great Decrease in Net Earnings, Especially in East

A comparison of electric railway statistics for January, 1918, with figures for the corresponding month of 1917, made by the information bureau of the American Electric Railway Association, indicates an extraordinary decrease in net earnings and operating income. This condition is particularly noticeable in the East, where the severe weather, as well as the curtailment of service due to fuel shortage, disastrously affected both the earnings and the expenses.

Data for January, representing 7670

Grant Park Road Sold for Junk

The sale of the property of the St. Louis, Lakewood & Grant Park Railway, St. Louis, Mo., an electric line which operated over the Gravois road and in St. Louis County, was approved on April 17 by the Circuit Court. The road was sold for junk recently by a receiver appointed by the court, to M. Hoffman & Company, who bid \$20,527 for the steel rails and other equipment, including three cars. The railroad, of which Henri Chouteau was president, was placed in the hands of a receiver

COMPARISON OF REVENUES AND EXPENSES OF ELECTRIC RAILWAYS FOR JANUARY, 1918 AND 1917

Account	United States				Eastern District				Southern District				Western District			
	Amount, January, 1918	Per Mile of Line			Amount, January, 1918	Per Mile of Line			Amount, January, 1918	Per Mile of Line			Amount, January, 1918	Per Mile of Line		
		1918	1917	% Increase Over 1917		1918	1917	% Increase Over 1917		1918	1917	% Increase Over 1917		1918	1917	% Increase Over 1917
Operating revenues.....	13,239,752	\$1,726	\$1,731	+0.29	\$8,517,827	\$1,580	\$1,617	+2.29	\$1,051,146	\$1,248	\$1,259	+0.87	\$3,670,779	\$2,555	\$2,417	5.71
Operating expenses.....	\$9,744,672	1,270	1,128	12.59	6,531,970	1,212	1,065	13.80	672,583	799	745	7.25	2,540,119	1,768	1,578	12.04
Net earnings.....	3,495,080	456	603	+24.38	1,985,857	368	552	+33.33	378,563	449	514	+12.65	1,130,660	787	839	+6.20
Operating ratio, per cent.....	1918, 73.60; 1917, 65.19				1918, 76.69; 1917, 65.84				1918, 63.99; 1917, 59.19				1918, 69.20; 1917, 65.31			
Average number of miles of line represented.....	1918, 7,670; 1917, 7,534				1918, 5,391; 1917, 5,322				1918, 842; 1917, 788				1918, 1,437; 1917, 1,424			

COMPANIES REPORTING TAXES

Operating revenues.....	\$9,351,628	\$1,625	\$1,642	+1.04	\$5,614,239	\$1,361	\$1,412	+3.61	\$457,543	\$1,266	\$1,247	-1.52	\$3,279,846	\$2,592	\$2,500	3.68
Operating expenses.....	7,177,903	1,248	1,110	12.43	4,597,148	1,114	982	13.44	287,681	796	692	15.03	2,293,074	1,812	1,641	10.42
Net earnings.....	2,173,725	377	532	+29.14	1,017,091	247	430	+42.56	169,862	470	555	+15.32	986,772	780	859	+9.20
Taxes.....	660,671	115	110	4.55	414,786	101	95	6.32	39,931	110	110	.....	205,954	163	161	1.24
Operating income.....	1,513,054	262	422	+37.91	602,305	146	335	+56.42	129,931	360	445	+19.10	780,818	617	698	+11.60
Operating ratio, per cent.....	1918, 76.76; 1917, 67.58				1918, 81.88; 1917, 69.57				1918, 62.88; 1917, 55.49				1918, 69.91; 1917, 65.65			
Average number of miles of line represented.....	1918, 5,753; 1917, 5,668				1918, 4,126; 1917, 4,058				1918, 361; 1917, 358				1918, 1,266; 1917, 1,252			

† Decrease.



### Ware & Brookfield Sold to Junk Dealers

The property of the Ware & Brookfield Street Railway, Ware, Mass., was sold at auction on April 22 to the Swift-McNutt Wrecking & Junk Company, Boston, for \$51,000. The road comprises 11 miles of track and a carhouse built in 1917 at a cost of about \$30,000. The property was built twelve years ago at a cost of about \$200,000. Service was furnished between Ware and West Brookfield, 7 miles, and between Ware and Gilbertville, 4 miles. J. Edward Brooks, Milton, Mass., was the principal stockholder. The road has lately been operating at a loss of nearly \$1,000 a month; service was discontinued on Feb. 3, 1918. John F. Lambert, superintendent of the road for eleven years, has been retained by the wrecking company to supervise the removal of the material. The purchasers plan to dismantle the poles, tear up the tracks and dispose of the whole equipment as junk. Ware and the surrounding towns are said to be greatly disturbed at the prospect of losing the road, and it is expected that an effort will be made to reach an agreement whereby operation can be resumed and continued.

### Regina Municipal Line Losses

The Regina (Sask.) Municipal Railway during 1917, according to the certified figures of auditors, showed receipts of \$321,727 and operating expenses of \$199,572. The operating surplus, therefore, amounted to \$32,154, but after taking into account fixed charges of \$96,066 the company had left for the year a deficit of \$63,912. The company recently put into effect changes in fares estimated to give increased revenue of \$31,700. During the discussion in connection with these changes it was stated before the City Council that the cost of carrying a passenger was 6.57 cents, while the receipts were only 4.6 cents.

## Financial News Notes

**City Protests Abandonment.**—A protest by the city of Sapulpa, Okla., against the abandonment of certain portions of the urban lines of the Sapulpa Electric Interurban Railway was heard on April 6 by the State Corporation Commission. The case was taken under consideration by the commission.

**Receiver for Small Road.**—Following the filing of a suit by the Sheldon Coal Company, one of the creditors, in the Lewis County Superior Court on April 16, the Washington Electric Railway was placed in the hands of Dan Bush as receiver by Judge Reynolds. This property is now understood to be included in the system of the North Coast Power Company, Vancouver.

**Woodstock-Sycamore Line Quits.**—The Woodstock & Sycamore Traction Company, organized ten years ago and operating gasoline cars between Sycamore and Marengo, Ill., has been dissolved and the ties, rails and equipment will be sold for junk. The road as originally planned was to extend from Sycamore to Woodstock, but only the portion between Sycamore and Marengo, a distance of 25 miles, was constructed.

**Foreclosure Decree Signed.**—The decree of foreclosure in the Northern Electric Railway litigation was signed on April 16 by Federal Judge M. T. Dooling. Simultaneously, the court appointed United States Commissioner Francis Krull special master to sell the physical properties of the system at auction in Sacramento at a date to be agreed upon later. The sale, however, is expected to take place in six weeks. The company operates 217 miles of

electric railway from Chico, Cal., as a center. The affairs of the company were reviewed in the ELECTRIC RAILWAY JOURNAL of April 6, page 676.

**Massachusetts Railway Suspends.**—The Plymouth & Sandwich Street Railway, Plymouth, Mass., has discontinued service. The road was built a number of years ago, but six years ago a franchise was secured to extend the lines to Sandwich. At that time the town agreed to subscribe to the capital stock to the amount of \$50,000, to be paid when, in the opinion of the Selectmen, the road was built, fully equipped and operated. Nothing was done for about five years, when last fall the road was finished as far as Sagamore station. The company then called upon the town for the \$50,000. The town refused, and the matter went to court. The court finally upheld the town.

**Dan Patch Prospects Brighter.**—Reorganization of the Minneapolis, St. Paul, Rochester & Dubuque Electric Traction Company, the Dan Patch line, took definite form recently when residents along the line turned over \$15,000 in cash, the second payment on the \$25,000 indemnity bond required by the court to guard against a drop in the value of the material used in the line as scrap should that part of the property about which the present action hinges eventually have to be sold as junk. A similar sum will be paid within thirty days on the purchase price of \$250,000. It is expected that by the time payments are completed every resident along the Dan Patch will be interested in the property as a stockholder. The new organization contemplates operating both divisions of the road, including the 14-mile cut-off between the Auto club and the Luce Line junction, as well as the main line to Northfield. The cut-off has not been operated under the existing receivership. W. L. Harris, John B. Irwin, Minneapolis; W. F. Roche, Lakeville, and R. H. Benham, comprise the reorganization committee.

## Electric Railway Monthly Earnings

BANGOR RAILWAY & ELECTRIC COMPANY, BANGOR, ME.						EASTERN TEXAS ELECTRIC COMPANY, BEAUMONT, TEX.					
Period	Operating Revenue	Operating Expenses	Operating Income	Fixed Charges	Net Income	Period	Operating Revenue	Operating Expenses	Operating Income	Fixed Charges	Net Income
1m., Feb., '18	\$67,485	*\$51,493	\$15,992	\$19,942	†\$3,950	1m., Feb., '18	\$80,408	*\$44,520	\$35,888	\$12,851	\$26,183
1m., Feb., '17	68,776	*40,521	28,255	18,933	9,322	1m., Feb., '17	73,006	*39,179	33,827	9,783	24,044
12m., Feb., '18	887,921	*520,282	367,639	230,385	137,254	12m., Feb., '18	950,583	*529,923	420,660	143,591	\$303,137
12m., Feb., '17	844,757	*475,477	369,280	217,077	152,203	12m., Feb., '17	848,403	*454,299	394,104	109,456	284,648
BATON ROUGE (LA.) ELECTRIC COMPANY						EAST ST. LOUIS & SUBURBAN COMPANY, EAST ST. LOUIS, ILL.					
1m., Feb., '18	\$19,847	*\$10,644	\$9,203	\$3,717	\$5,486	1m., Feb., '18	\$311,063	*\$224,992	\$86,071	\$66,648	\$19,423
1m., Feb., '17	18,821	*8,685	10,136	3,513	6,623	1m., Feb., '17	268,158	*172,293	95,865	63,969	31,896
12m., Feb., '18	234,074	*122,512	111,562	43,071	68,491	12m., Feb., '18	3,742,457	*2,602,427	1,140,030	789,726	350,304
12m., Feb., '17	215,983	*101,794	114,189	42,148	72,041	12m., Feb., '17	3,131,624	*1,913,180	1,218,444	759,411	459,033
BROCTON & PLYMOUTH STREET RAILWAY, PLYMOUTH, MASS.						JACKSONVILLE (FLA.) TRACTION COMPANY					
1m., Feb., '18	\$7,192	*\$8,536	†\$1,344	\$1,328	†\$2,672	1m., Feb., '18	\$66,003	*\$47,244	\$18,759	\$17,030	\$1,729
1m., Feb., '17	7,714	*8,709	†995	1,161	†2,156	1m., Feb., '17	53,931	*37,312	16,619	15,493	1,126
12m., Feb., '18	122,336	*124,212	†1,876	15,145	17,021	12m., Feb., '18	716,590	*488,380	228,210	190,752	37,458
12m., Feb., '17	123,986	*112,804	11,182	13,379	†2,197	12m., Feb., '17	637,103	*429,440	207,663	185,495	22,168
CHATTANOOGA RAILWAY & LIGHT COMPANY, CHATTANOOGA, TENN.						LEWISTON, AUGUSTA & WATERVILLE STREET RAILWAY, LEWISTON, ME.					
1m., Feb., '18	\$137,791	*\$106,144	\$31,647	\$30,565	\$1,082	1m., Feb., '18	\$42,254	*\$63,085	†\$20,831	\$15,762	†\$36,593
1m., Feb., '17	102,594	*68,653	33,941	32,062	1,879	1m., Feb., '17	54,793	*51,350	3,443	15,444	†12,001
12m., Feb., '18	1,422,833	*1,211,754	211,079	361,669	†150,590	12m., Feb., '18	871,251	*714,234	157,017	187,610	†30,593
12m., Feb., '17	1,246,829	*844,466	402,363	362,786	39,577	12m., Feb., '17	816,699	*579,192	237,507	186,476	51,031
COLUMBUS RAILWAY, POWER & LIGHT COMPANY, COLUMBUS, OHIO						PORTLAND RAILWAY, LIGHT & POWER COMPANY, PORTLAND, ORE.					
1m., Feb., '18	\$347,374	*\$263,064	\$84,310	\$54,119	\$30,191	1m., Feb., '18	\$577,581	*\$327,385	\$250,196	\$177,792	\$72,404
1m., Feb., '17	316,318	*224,677	91,641	44,961	46,800	1m., Feb., '17	459,908	*243,101	216,807	181,016	35,791
12m., Feb., '18	4,085,333	*3,055,742	1,029,591	576,221	453,370	12m., Feb., '18	6,240,740	*3,745,515	2,495,225	2,145,385	349,840
12m., Feb., '17	3,613,172	*2,219,872	1,393,300	520,107	873,193	12m., Feb., '17	5,568,929	*3,030,719	2,538,210	2,178,685	359,525

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



# Traffic and Transportation

## Strang Line Seeks Increase

Kansas Institution Forced to Appeal to Public Service Commission for Fare Increase

A hearing was held in Olathe, Kan., on April 16 by the Public Utilities Commission of Kansas on the application of the Missouri & Kansas Interurban Railway, operating 22 miles of line, for an increase in rates to a straight 3-cents-a-mile basis.

### HOW THE COMPANY HAS FARED

The company's petition and arguments urged that immediate relief was needed to prevent a complete withdrawal of service within the next few months. The plea is one of emergency, and the company did not go into the matter of valuation. It had suggested to the commission that it send engineers to go over the line, and accountants to examine the books, preliminary to the hearing, to get independently of the petition, the information that would disclose the necessity for the higher rates. The commission answered that this was unnecessary, in view of the short time intervening between the appeal and the hearing.

The property was bonded about five years ago for \$30,000 a mile. It has always paid its interest, and each year, until 1917, put some surplus back into the road, a total of \$21,000 having been so disposed from 1913 to 1916. In 1917 the revenue from passenger service was about \$94,000 and from freight about \$16,000. That year the company put about \$2,000 into renewals and showed a deficit of about \$700. No dividends have ever been paid, but business had developed to a point where this could probably have been done. Then came the unusual conditions resulting from the war.

### TWO CENTS A MILE PRESENT CHARGE

The railway has been operating with a 2-cents-a-mile rate on through traffic. Its largest business, however, was from the people who had homes along the line. There were eight zones between Olathe and Kansas City—about 2½ miles in each zone, in which there were 5-cent fares, and from which toward either terminus there was an additional 5-cent fare from the point of origin. In many cases there were two or three stations in each zone. The company also sold commutation tickets, the price being based on twenty-five trips a month at half fare for the round trip. The tickets for use between Olathe and Kansas City sold for \$10 and those between nearer points and the city at the same relative price of 1 cent a mile. Books with a smaller number of trips a month were sold on the basis of 1½

cents a mile, the distances, however, being figured by zones. One result of the system was that it is difficult now to estimate the distances traveled by the holders of books.

The company has encountered perhaps even more than the usual difficulties of electric railway operation during the past year. The inability of the Kansas City Railways to provide all the current the line needed last winter made necessary the withdrawal of its through cars from Olathe. In addition the company had before this been forced to shut down its own generating station at Overland, because of the shortage of natural gas. Its plant at Olathe requires replacement in the near future.

### THREE CENTS A MILE SUGGESTED

The company represented to the commission that a straight 3-cents-a-mile rate would probably reduce the traffic 15 per cent, but would yield a possible passenger revenue of \$124,000 a year. This, with the \$16,000 freight business, would provide revenue sufficient for necessary renewals and replacements, and the maintenance of service.

## Ten One-Man Cars for Use on Middlesex & Boston

Before the Massachusetts Public Service Commission at Boston on April 17, G. M. Cox, vice-president and general manager of the Middlesex & Boston Street Railway, stated that ten one-man cars will be placed in service on the road in the near future. Six new cars of this type are to be delivered in the latter part of May, and the company is to rebuild four cars for one-man operation.

The commission has authorized the use of such cars on ten lines. The six new cars weigh about 6½ tons each. The old cars which are to be rebuilt weigh about 9½ tons. All the one-man cars will be equipped with safety devices.

The use of these cars represents the company's best effort to render service without tearing up tracks. On the Lexington-Woburn line it is estimated that the saving by operating a one-man car will total \$1,940 a year, exclusive of the power economies. Mr. Cox said that he was informed on a recent trip to the Brockton & Plymouth Street Railway that the two one-man cars in service on that road are saving materially in power compared with the ordinary two-men cars. He emphasized his belief that the removal of tracks was against the best interests of the State and said that existing lines were an asset even for occasional use by non-residents of the territory in which the company operates.

## Return to Five-Cent Unit

Large Massachusetts Company Wants This as Basic Fare With Short Outside Zones

The Massachusetts Northeastern Street Railway, Haverhill, Mass., has filed with the Public Service Commissions of Massachusetts and New Hampshire a new tariff asking that the same be made effective on May 15.

The company's present tariff is on the basis of 5-cent fares except as to its Haverhill-Lawrence line, and a number of sections in Haverhill and Lawrence where limited distances can be traveled on 5-cent tickets. Under this tariff the company's passenger revenue increased 8.7 per cent for the year ended Dec. 31 but its operating expenses increased \$109,168, or 18.2 per cent, and for the first three months of the present year the company has failed to earn operating expenses, to say nothing of its taxes and other fixed charges.

The new tariff proposes a return to the 5-cent unit of fare for all sections on the system except as to the lines along the shore from Plum Island to Hampton Beach. It is a combination of the present collection arrangement and the mileage zone plan which the management considers best adapted to its particular situation and business, and which it hopes will meet with public favor.

The plan in general is to establish 5-cent fare sections approximately 2½ miles in length except as to the mileage in cities and towns with relatively dense population where the sections and haul will be longer for the single fare.

About midway between the 5-cent limits or collection points, 2½-cent fare points will be established, to which a passenger may ride upon a 2½-cent check or ticket when used in connection with one or more 5-cent fares or tickets, so that one full fare section and one-half of the next adjoining section can be traversed for 7½ cents or two and one-half sections for 12½ cents, and so on. It will still be necessary to collect at every 5-cent fare point at least when open cars are used, but instead of the passenger being required to pay 12 cents as at present, for a continuous ride in any part of two sections, it will be possible for him to cross a collection point on the payment of 7½ cents by the use of a ticket. These 7½-cent tickets will be placed on sale at points convenient for patrons, in blocks of ten for 75 cents.

Free transfers will be issued at various centers allowing passengers to ride limited distances on other lines of the company, and it is proposed to continue the sale of workingmen's tickets good in certain specified hours, and in certain specified sections at 75 per cent of the full tariff rate.

The establishment of the short, or intermediate, zones will automatically eliminate many so-called "lap overs" where passengers are now being carried beyond a regular fare point without additional charge, and except as



to the elasticity necessary to adjust a fare point to some local condition calling for special consideration, and for the longer sections in the more populous areas, the intention is as nearly as possible to charge on a mileage basis, and by the introduction of new zones on various routes as indicated in the tariff to equalize distances and remove any discrimination that exists at present.

### Filling the Market Basket

#### Interurban Road Aids Its Employees to Purchase Supplies of Foodstuffs at Wholesale Prices

The Missouri Short Line, Kansas City, Mo., since Feb. 1 has been operating a system of supplying its employees with several items of groceries at practically wholesale cost. The principal foodstuffs distributed thus are potatoes, meat, sugar, bacon and canned goods.

An arrangement was made with a jobbing house for the purchase of groceries and meats ordered by the men. Each week a list of items with their prices is posted at the main office, at the carhouse in North Kansas City, and in St. Joseph. The men make up their orders in consultation with their wives and bring baskets to the carhouses in North Kansas City where the groceries are delivered on one of the company's freight cars.

#### SAVING 25 TO 35 PER CENT

Orders are received and goods delivered every two weeks a few days before the semi-monthly pay day. The men are permitted to sign an order which, when passed by the head of the workmen's department, is received and charged against the amount the man has coming to him in the form of pay. The train dispatcher in North Kansas City occupies the day when deliveries are made in keeping track of them. His time is charged against the goods and the cost is distributed among the purchasers. The men save from 25 to 35 per cent on the cost of their groceries. In addition they do not have to run a grocer's bill and always get good quality and full value, even disregarding the discount they receive. More than one man has declared that the facilities thus provided are equivalent to a raise of \$10 a month. For some time trainmen have been in the habit of buying butter and eggs from farmers along the route who patronize the Missouri Short Line.

J. R. Harrington, vice-president and general manager of the Missouri Short Line, is pleased with the reception of the plan by the men. The supplies for the men are procured from a wholesaler in Kansas City, Kan., who does not deal with any of the merchants along the railway. Even those local merchants who might feel that they had cause to be aggrieved at such an arrangement, apparently do not take the matter as having any personal application to themselves.

## London Applies for Higher Fares

### Canadian Company is Conducting Publicity Campaign—Public Co-operation is Being Created

The London (Ont.) Street Railway has appealed to the City Council for an amendment to its franchise (granted March 8, 1895) permitting it to charge increased fares. The company does not specify the increase desired, but asks the Council to conduct an investigation to determine what increase is required.

The present fares of this Canadian company are as follows: workmen's tickets, nine for 25 cents; regular tickets, seven for 25 cents; children's tickets, two for 5 cents; children's cash fare, 3 cents, and regular cash fare, 5 cents.

In connection with its application, the company is conducting an aggressive publicity campaign, under the direction of Glenn Marston, New York. This is designed to acquaint the public with the problems the company has to solve, and show why the increase in fares is essential to the maintenance of good service.

The campaign has been under way for several weeks. Daily advertisements, such as those reproduced herewith, have been published in each city newspaper, comparing the company's increased cost of living with that experienced by every individual in the city. The papers have shown considerable interest in the question and each day interview officials of the company

The company publishes a four-page bulletin, entitled *Street Railway Service*, which normally appears twice a month. Publication is now weekly and will continue to be so during the discussion of the fare question. Distribution of the bulletin is secured through "Take One" boxes placed at convenient points in the car.

Regular-sized street-car cards are used generally for the company's safety slogans. The safety cards have been replaced by cards reading "Higher Fares? Read the Ads in the Papers."

#### TWO SLOGANS ARE USED

Two standard slogans are used in the advertisements. The first one, "Let us have facts and fairness," has been referred to in nearly every communication sent to the papers. It has had the desired effect of keeping hysteria and plain "knocking" out of the discussion.

The second slogan, "What would you do if you owned the street railway?" is an effort to get the public to consider the problem from a personal point of view. It seems to be serving its purpose admirably, as is indicated by the public correspondence in the newspapers. Practically all the letters written to the papers contain suggestions which, in the eyes of the writers at

Let Us Have Facts and Fairness.

**SHOULD AN AGREEMENT BE MODIFIED?**

This company is operating under an agreement made with the city in 1895. At that time it was considered a good agreement, and in the interest of both the city and the company.

But times have changed. There was no expectation that a time of extraordinary high prices would come.

If changing conditions have made any feature of that 1895 agreement harmful to the company, that same feature is harmful to the city.

It can now be seen that there should have been some provision in the 1895 agreement for changing conditions; but existence of that agreement does not prevent the city and the company from coming to a new agreement which will be more beneficial and satisfactory to both.

There is only one way for the company to give, and the city to get, the best service, and that is by co-operation February 22, 1918.

**What would YOU do if you owned the Street Railway?**

LONDON STREET RAILWAY COMPANY,  
C. B. KING, Manager.

February 21, 1918.

Let Us Have Facts and Fairness.

**EGGS**

Yesterday we spoke of the price of eggs in connection with street car fares. We showed that street car fares have not changed since 1895, but that the people have bigger and better cars, and that they can ride much further than they could in 1895.

We also showed that the cost of operating the street railway has increased tremendously, while the method of securing eggs has not changed at all.

Why, then, are we willing to pay eight times as much for an egg, which has not improved either in size or quality during the last 23 years? Would it not be fair also to pay more for street car rides, which are both longer and more comfortable than they used to be, especially since the cost of furnishing those rides has advanced amazingly?

**What would YOU do if YOU owned the Street Railway?**

LONDON STREET RAILWAY COMPANY,  
C. B. KING, Manager.

March 2, 1918.

#### SPECIMENS OF ADS USED IN LONDON CAMPAIGN

in regard to points which are brought up in street discussion.

A large number of letters dealing with the fare question have been written to the papers and published by them. An interesting feature of these letters is the fact that only one of them has stated that fares should not be increased. Nearly all of the writers appear to recognize the necessity of the increase and are willing it should go into effect provided some pet hobby of the individual is inserted in the contract for the increase.

least, are constructive—a clear indication that the people are giving their electric railway problem real consideration.

Aside from its direct effect on the fare situation, the publicity campaign has already developed a feeling among the people that the interests of the public are best served by looking to the interests of the company. There exists a spirit of co-operation which was largely lacking before the railway took the patrons of the company into its confidence.



## Skip Stops for Pittsburgh

Commission Orders Their Installation  
—660 Ft. the Average Distance—  
Stops to be Marked by Signs

In an order issued on April 11 the Public Service Commission of Pennsylvania instructed the Pittsburgh Railways to install skip stops on three of its routes. The order says in part:

"The investigation of the operation of the lines on the Penn Avenue-Butler Street throat shows that the delays and congestion are partly due to the practice of having stops at or in nearly every block. The study of the traffic shows that a number of these stops can be eliminated without interfering to any degree with the convenience of the public and that this elimination will be likely to add to the regularity and speed of the service. The commission will, therefore, order the company to install stops in accordance with the schedule as set out in the order of the commission, which provides for about eight stops per mile, corresponding to 660 ft. between stops, substantially in accordance with the latest and best recognized street railway practice for large cities and in keeping with the contemplated order of the United States fuel administrator, reading as follows:

"*Bulletin No. 11, Electric Service Applied to Fuel Conservation*"

"The regular passenger stopping places for electric railways should be spaced so as not to exceed eight per mile in urban districts and six per mile in suburban districts. On interurban lines the regular passenger stopping places shall not exceed four per mile. Where safety stops are necessary they shall, so far as practicable, be combined with the passenger stops."

"Furthermore, good practice dictates that the stopping places shall be clearly defined by suitable signs. The railway company will be ordered to erect signs in advance at the proposed stopping places so that the public may be thoroughly informed as to the changes to be made in the operation."

Later in its report the commission states that these stopping signs shall consist of a circular disk with white background upon which is to be painted in black the words "Car Stop" and which, with its attachments, is to be suspended from the trolley wire at and over the place where the car stops.

## Zone Fares in Rhode Island May 1

The zone system will go into effect on the lines of the Rhode Island Company on May 1, the Legislature having authorized the company to establish this plan under the control of the Public Utilities Commission.

A. E. Potter, general manager, states that a ticket system will be used on the suburban and interurban lines. When a passenger pays his fare he will state his destination, and pay full fare there-to, receiving a ticket properly punched by the conductor.

This system is to be used on the following lines: Providence-Button-

woods, Providence-East Greenwich, Providence-Narragansett Pier, Providence-Riverpoint, Riverpoint-Rocky Point, Providence-Danielson, Providence-Che-pachet, Providence-Woonsocket, Pasco-ag-Woonsocket, Pawtucket-Cumberland Hill, Pawtucket-Crescent Park, Providence-Riverside, and the Warren and Bristol.

On the lines where the fare is less than 10 cents, some other system is to be used. Just what that system will be has not been decided.

## Basis of Hartford Fare Appeal

City Cites Wherein It Believes Commission Erred in Recent Six-Cent Case

The appeal of the city of Hartford, Conn., from the decision of the Public Service Commission of Connecticut in sustaining the 6-cent fare on the lines of the Connecticut Company is returnable to the Superior Court at Hartford on May 7.

In the reasons given for the appeal the corporation counsel of the city states that the commission erred in finding facts relating to the price paid by the Consolidated Railway and the New York, New Haven & Hartford Railroad for street railway properties; in finding facts concerning prices that were contrary to evidence; in treating the Connecticut Company as a unit for the purpose of determining whether or not the 6-cent fare was reasonable; that the commission erred in finding that the 6-cent fare was reasonable in Hartford when admittedly certain of the railway lines within the city limits could be operated profitably on a 5-cent basis and when, so far as appeared from evidence, all the lines within the limits of the city could be operated at a profit on a 5-cent unit of fare.

It is held that no data were submitted showing receipts from operations of lines in the carriage of passengers in Hartford; that the 6-cent fare is not a solution of the difficulties of the Connecticut Company; that there were no facts before the commission to determine whether the Hartford lines were operated at a profit or otherwise; that the commission erred in failing to require the Connecticut Company to rearrange its zone system with a view to fairness to all classes; that an error was made by the commission in ruling that the 6-cent fare was reasonable at a minimum fare for the short rider; that the commission erred in considering the property of the Connecticut Company as a whole notwithstanding the fact that it leases lines from the Connecticut Railway & Lighting Company and from the Shore Line Electric Railway.

The testimony presented before the commission in this case was reviewed at length in the *ELECTRIC RAILWAY JOURNAL*, and the decision of the commission was abstracted in the issue of this paper for March 30, page 620.

## Skip Stops in Washington

Smooth Inauguration of Plan in National Capital—Federal Trade Commission Staggers Hours

The skip-stop plan for the city of Washington, D. C., as proposed by John A. Beeler, was put into practice on April 21. The public was thoroughly informed through the newspapers that the change was to be made and that cars would stop only at the "car stop" signs. These are circular signs painted yellow, with "Car Stop" in black letters. In some cases they are carried on the trolley poles either in the middle or at the side of the street, and in other places



Skip Stops according to Washington Star

on an iron post about 6 ft. high. A saving in running time of 15 per cent is expected.

The *Washington Evening Star* for April 21 had a good humored cartoon, reproduced herewith, on the working of the new plan. The *Washington Times* described the inauguration as follows:

"There were some kicks because of the confusion in locating car stops; some complaints over the locations; the inevitable grouches that go with changes of any kind; but on the whole reports from the public appeared to indicate that the people, who are adjusting themselves to all sorts of over-turning in their lives, regarded the skip-stop plan as about the best thing they have had imposed on them.

"The greatest satisfaction was over the saving of running time. The schedule on every line in the city has been shortened, and motormen and conductors like the change so well that they put 'pep' into their work, and there was acceleration in every direction. Motormen at last found opportunity to pull throttles wide open and make some real time, and they did it with a vim. The conductors entered into the spirit of it and even the passengers stepped more lively than usual in getting on and off the cars."

The Public Utility Commission will now probably soon take up the proposed plan of staggered hours for the different government bureaus and departments. The Federal Trade Commission has already begun this reform by voluntarily changing its opening hours from 9 a. m. to 8:30. It has 400 workers.



## Transportation News Notes

**Kansas City Hearing April 29.**—The hearing on the application of the Kansas City Railways for an increase in fares has been set by the Public Service Commission of Missouri for April 29.

**Skip-Stop Plan at Dayton Will Be Retained.**—The City Commission at Dayton, Ohio, has decided that the skip-stop plan adopted by the street railways shall be retained as a means of conserving fuel.

**Six-Cent Fare Wanted in Taylorville.**—The Central Illinois Public Service Company, Mattoon, Ill., has applied to the Public Utilities Commission of Illinois for a 6-cent fare in Taylorville and for the elimination of commutation books.

**Final Milwaukee Hearing Begun.**—The final hearing was begun on April 8 on the application of the Milwaukee Electric Railway & Light Company, Milwaukee, Wis., to the Railroad Commission of that State for the readjustment of its fares covering the entire system in Milwaukee County.

**Higher Fares Indicated for Suburban Line.**—The March statement of the Columbus Railway, Power & Light Company, Columbus, Ohio, indicates that the fare on its Westerville line will have to be increased. The working capital of \$25,000, which is the fare indicator, has dropped to about \$15,000.

**West Penn Will Charge Six Cents.**—The West Penn Railways, Pittsburgh, Pa., has filed with the Public Service Commission a revised tariff schedule in which it is proposed to increase fares from 5 to 6 cents. The new tariff will become effective on May 11. The company operates 339 miles of line.

**Operation of Trailers Suggested.**—The Administrative Board at Richmond, Va., has written to Thomas S. Wheelwright, president of the Virginia Railway & Power Company, requesting that trailers be added to all cars of the company during the hours when the congestion is greatest.

**Hearing on South Bend Rates April 26.**—April 26 was set as the date for the hearing before the Public Service Commission of Indiana at Indianapolis, Ind., on the application of the Chicago, South Bend & Northern Indiana Railway for permission to increase its inter-urban rates from 2 cents a mile to 2½ cents.

**Agree on East Cleveland Fares.**—The Cleveland (Ohio) Railway and the officials of East Cleveland have agreed upon a rate of fare of 5 cents, with the payment of 1 cent for transfers, for service between Cleveland and East Cleveland. It is believed the managers of the city will accept the franchise.

The grant will then have to be submitted to a vote of the electors.

**Increase in Fare Wanted in Battle Creek.**—The Michigan Railway has filed a petition with the City Commission of Battle Creek, Mich., for an increase of cash fares to 6 cents and the abolishment of the six-for-a-quarter tickets. The company has recently been authorized to charge a 6-cent fare in Jackson. This authorization was noted in the ELECTRIC RAILWAY JOURNAL of April 20, page 787.

**Six-for-a-Quarter Tickets Go.**—The Charlottesville & Albemarle Railway, Charlottesville, Va., April 16 was authorized by the State Corporation Commission to eliminate the six-for-a-quarter tickets and raise the labor and school pupil tickets from 2½ to 3 cents. The Council of the city of Charlottesville raised no objection and admitted the jurisdiction of the Corporation Commission.

**New Sunday, Holiday and Excursion Fares.**—The Southern New York Power & Railway Corporation, operating from Mohawk to Oneonta through Richfield Springs and Cooperstown, has filed with the Public Service Commission of the Second District of New York a new tariff schedule, effective on May 30 and continuing in effect until Oct. 1, 1918. The new tariff affects special Sunday, holiday and week-end excursion fares between various local stations for the season of 1918.

**Omaha Feels the Pinch.**—In announcing the increase in the pay of its employees referred to elsewhere in this issue of the ELECTRIC RAILWAY JOURNAL the Omaha & Council Bluffs Street Railway, Omaha, Neb., issued a statement in which it said: "From the total increases of wages to our men during the last two years, together with the increased cost of every article purchased by the railway, it may be seen that prompt relief must be sought either in an increase of fares, or in other directions, in order to enable the company to meet its financial obligations."

**Short Colorado Road to Increase Fares.**—The Denver & South Platte Railway, operating 5 miles of road between Denver and Littleton, has made application to the Public Utilities Commission of Colorado for an increase in fare from 5 cents to 10 cents between Englewood and Littleton. Commutation books containing twenty-five fares are to be sold for \$1.50, thus reducing the cost per ride to 6 cents. Under the new arrangement the fare from Denver to Littleton will be 11 cents, if the commutation plan is used. The new rates will go into effect on May 10 unless protest against them is entered with the commission.

**Portland Fare Appeal Filed.**—The city of Portland, Ore., on April 5 filed in the Supreme Court its appeal in the 6-cent fare case, in which the city is appellant and the State Public Service Commission respondent. The case involves the question of the jurisdiction

of the commission, as the result of an order allowing the Portland Railway, Light & Power Company to increase its fares from 5 cents to 6 cents. The commission won the unanimous decision of the six judges in the lower court. Appeal was filed through W. P. La Roche, city attorney. A hearing will not be held on the Portland appeal until the Supreme Court returns from Pendleton, where the Eastern Oregon session will be held the first week of May.

**Protests Johnstown Increase.**—City Solicitor Tillman K. Saylor, acting for members of the Council of Johnstown, Pa., and the citizens' protest committee, has filed with the Public Service Commission a complaint against the new tariff of the Johnstown Traction Company. Mr. Saylor says that 5-cent fares "yield ample return on the capital invested, if the business of the company is properly managed," and asserts that the proposed 6-cent rate is "excessive, unjust and unreasonable." It is further alleged that the company has failed to extend its lines and improve its service as demanded by the transportation needs of the community. The new tariff went into effect on April 14.

**Application to Dismiss Refused.**—A decision has been rendered by the Public Utilities Commission of Maine overruling the motion of Guy H. Sturgis, attorney general, to dismiss the application of the Cumberland County Power & Light Company for an increase in its passenger fares to 6 cents on electric roads in Portland and vicinity. The effect of this ruling is to require the remonstrants, represented by the attorney general, to prepare and submit their case. The preparation would necessitate the testimony of an engineer for valuation purposes, the reasonableness of the creation of central and outside zones, the matter of not charging for transfers and the curtailment of service. In March the commission suspended the proposed rates until June 7 in order to allow the protestants to examine the company's evidence and employ experts.

**Increase in Evansville Fare Approved.**—The Public Service Commission of Indiana has granted the petition of the Public Utilities Company, Evansville, Ind., for the elimination of ticket fares, and has authorized the company to charge a straight 5-cent cash fare, with the usual transfer privileges, and to suspend the sale of tickets at the rate of six for 25 cents until the further order of the commission, but not exceeding a period of two years. The investigation of the commission showed that the company was confronted with a deficit estimated at \$35,000 for the year 1918, and that the relief asked would only meet a part of the added costs of operation. It was assumed by the commission that with a normal increase of traffic, the establishing of a straight 5-cent fare would yield an increased revenue of \$45,000 for the year, which, however, it was estimated would not meet more than 50 per cent of the increased cost of operation.



## Legal Notes

### ILLINOIS.—*Payment to Parent Does Not Satisfy Judgment in Favor of Child.*

A father has no right by reason of the parental relation to the custody of the estate of his minor child. Hence, a payment to the father of a judgment rendered in favor of the infant does not satisfy the judgment. (*Paskewie vs. East St. Louis & Suburban Ry.*, 117 N. E. Rep., 1035.)

### KENTUCKY.—*Better Terminal Facilities, Made Necessary by Modern Conditions, Do Not Require Additional Franchise.*

Where a single spur track was put in when horsepower was used by a street railway before the adoption of the present Constitution requiring franchises upon public streets to be sold to the highest bidder, a subsequent consent by the city to a double spur track with a loop, necessary on account of the substitution of motor power, was not the grant of an additional franchise, but the conforming of an old turnout to modern conditions, to which the street railway possesses a property right. (*City of Dayton et al. vs. South Covington & Cincinnati St. Ry.*, 197 S.W., 670.)

### KENTUCKY.—*Assessment Against Electric Railway for Oiling Street Is Valid.*

The oiling of city streets being a permanent improvement, preserving and making the streets more lasting for the purpose of travel, a reasonable part of the cost thereof may be assessed against an electric railway using such streets. (*Henderson Trac. Co. vs. City of Henderson*, 198 S.W. Rep., 730.)

### MASSACHUSETTS.—*Injury to Person Who Climbed Over Barrier Across Street Under Repair.*

Where barriers erected by a city indicated that a street had been temporarily withdrawn from public travel by reason of repairs, a street railway company is not bound to anticipate the presence of pedestrians on such street, or that they will stumble over such paving and fall in front of a car. (*Conners vs. Worcester Consol. St. Ry. Co.*, 117 N. E. Rep., 334.)

### MASSACHUSETTS.—*Falling Window Not Necessarily Caused by Negligence of Company.*

In an action against a street railway for injuries when an open window of its car fell on a passenger's arm, evidence held insufficient to show that the window was raised and improperly fastened in place by a servant of the street railway and not by some person for whose act it would not be responsible. (*Murphy vs. Boston El. Ry.*, 118 N. E. Rep., 191.)

### MASSACHUSETTS.—*Commission Has Power to Change Rates Specified in Original Grant.*

Whether the Bay State Street Railway should be permitted to withdraw six-for-25-cents commutation tickets over the Slade's Ferry Bridge at Fall River, issuance of which was made a condition by the city of Fall River to the grant of a location to the road's predecessor, was a question to be decided according to the judgment of the Public Service Commission, based on the evidence of the company's financial condition and ability to serve efficiently the public, dependent on the maintenance of its entire system. (*City of Fall River et al. vs. Public Service Commission et al.*; *Same vs. Bay State St. Ry. Co.*, 117 N.E. Rep., 915.)

### NEW JERSEY.—*Township Cannot Compel Construction of Part of Line if Legal Obstacles Prevent Its Construction Complete.*

A municipal ordinance authorized the construction of a street railroad from terminus to terminus but the company found it would be unable to obtain the permission of a steam railroad to cross its tracks. Held that the township authorities could not demand from the court a mandamus to compel the construction of the road in two unconnected sections, separated by the steam railroad in question. (*Hamilton Township vs. Mercer County Trac. Co. et al.*, 102 At. Rep., 3.)

### NEW JERSEY.—*Municipalities Enjoined From Moving Turnout.*

Municipal corporations are not, as respects public rights, within statutes of limitations, but in exceptional cases the court may hold the public estopped, if right and justice require.

A street railway company, acting under ordinance in constructing its railroad, changed the location of one of its turnouts from the point designated in its authority to another point a considerable distance away, where, however, its location could have been authorized originally. The railroad and turnout, thus constructed, were maintained and operated for twelve years without any protest from the municipalities, or the landowner in front of whose property the turnout was constructed. Held, that the municipalities, both of which ordered the removal of the turnout, be perpetually enjoined from removing it. (*Trenton & Mercer County Trac. Corp. et al. vs. Inhabitants of Ewing Township et al.*, 101 At. Rep., 1037.)

### NEW YORK.—*Rights at Crossings Defined.*

"At crossings, neither the street car nor the pedestrian has a paramount right of way. Between crossings the car has the right of way." (*Goldstein et al. vs. Union Ry.*, 167 N. Y. Sup., 837.)

### NEW YORK.—*Persons Liable for Damage from Charged Telephone Wire.*

Where a railway company, maintaining a telephone wire, knew that the heavily charged wire of a light and gas company had sagged upon the telephone wire, the railway company and

the light and gas company were in pari delicto as to the killing of a third person's horse by coming in contact with electricity from the railway company's telephone wire, which burned in two and fell to the ground. (*Hudson Valley Ry. Co. vs. Mechanicville Elec. Lt. & Gas Co.*, 166 N. Y. Sup., 816.)

### PENNSYLVANIA.—*Paving of an Improved Kind Required.*

An ordinance granted a street railway company the right to use the streets as a right-of-way provided that it should be required at the time of the construction of the railway to pave the streets between its tracks and for a distance of 24 in. outside of each rail with material or pavement similar to that then in use or which might in the future be used or adopted by the municipality, and keep and maintain the same in good condition, so that driving on, off, or across the tracks should be safe. At the time of construction of the road the municipality's streets were macadamized, and defendant macadamized the streets between its tracks. Thereafter the municipality ordered repaving of certain streets with vitrified brick, and defendant thereupon paved its portion of such streets with the same material. Subsequently the municipality ordered the paving of other streets with vitrified brick and notified defendant to pave its portion. Defendant refused, on account of its financial condition. Held that, as the streets were in need of construction and repair, specific performance of the contract was properly directed. (*Chambersburg Borough vs. Chambersburg & Gettysburg Elec. Ry.*, 101 At. Rep., 922.)

## New Publications

### Coal: The Resources and Its Full Utilization

By Chester C. Gilbert and Joseph E. Pogue of the Division of Mineral Technology, United States National Museum. Paper, twenty-six pages.

This is a reprint of Part 4 of Bulletin 102 of the United States National Museum, Smithsonian Institution.

### The Employment Department and Employee Relations

By F. G. Henderschott and F. E. Weagly. The LaSalle Extension University, Chicago, Ill. Paper, sixty pages.

This pamphlet describes the organization and the duties of an employment department, the functions of the employment manager, his relation to other departments, the sources of labor supply and the scientific method of selecting men for jobs. Practical questions of transfers, promotion and general welfare are also discussed. The pamphlet is a good guide to the modern handling of employment problems.



## Personal Mention

**Charles H. Session** has been named a member of the Public Utilities Commission of Kansas.

**Arthur McGee** has been appointed master mechanic of the Indiana Railways & Light Company, Kokomo, Ind., to succeed I. H. Montgomery.

**Walter Harris** has resigned as master mechanic of the Central California Traction Company to accept the position of master mechanic with the Portland, Eugene & Eastern Railway, Portland, Ore.

**Charles R. Detrick**, secretary of the California Railroad Commission, has resigned. **Rudolph A. Pabst**, who has been assistant secretary for some time, will perform the duties of secretary for the present.

**H. S. Murphy** has been appointed engineer of distribution of the Philadelphia (Pa.) Rapid Transit Company to succeed J. H. M. Andrews, who was called into service last August with the Pennsylvania National Guard.

**George D. Powell** has been promoted to the position of office engineer in the maintenance of way department of the Union Traction Company of Indiana, Indianapolis, Ind. Mr. Powell has been draughtsman in that department since last August.

**E. C. Pfenning**, secretary of the City Light & Traction Company, Sedalia, Mo., has been transferred to a similar position with the Montgomery Light & Water Power Company, Montgomery, Ala. **Allen O'Bannon**, general bookkeeper at Sedalia, succeeds Mr. Pfenning.

**S. R. Humbert** has been appointed superintendent of transportation of the Indiana Railways & Light Company, Kokomo, Ind., to succeed F. O. Pense, who has been appointed superintendent of the Oakland Coal Company, which has been formed to mine coal for the railway and light company.

**Charles E. Cox**, for the last fifteen years with the Urbana & Champaign Railway, Gas & Electric Company, (Illinois Traction System) Champaign, Ill., has resigned to give his entire attention to an automobile business in which he is interested. Mr. Cox has served as cashier, auditor and office manager for the local utility company in Champaign, Ill. He will continue to be located in that city.

**A. G. Carson**, former manager of the Eastern Wisconsin Electric Company at Fond du Lac, Wis., has been appointed assistant to the vice-president of the Wisconsin Public Service Company, Green Bay, Wis., and will for the present assume the duties performed previously by J. G. Miller at Manitowoc, Mr. Miller having been ordered to Baltimore as noted in this paper for April 20.

**George A. Post** has announced his intention to retire as president of the Railway Business Association. Mr. Post has been president of the association ever since its organization. The principal purpose of the association in the past has been to promote good relations between the railways and the railway supply companies and to educate public opinion and public officials regarding railway questions.

**Ainslee A. Gray**, formerly editor of *Electrical Review* and more recently in the advertising business in Chicago, has been commissioned major in the ordnance department of the United States Army. Major Gray will establish a bureau to supply information to ordnance manufacturers and their employees through the trade press, the government believing it desirable to keep in touch with manufacturers in this manner.

**Rollo Keesler** has been appointed division engineer for the Anderson division of the Union Traction Company of Indiana, Indianapolis, Ind., to succeed **Bob Custer**. Mr. Keesler has been office engineer in the maintenance of way department of the company since 1912, except for a few months' absence. Prior to becoming connected with the Union Traction Company he was for two years with the National Tile Works and for two years with the American Steel & Wire Company as draftsman.

**George Alan Green**, chief engineer and superintendent of the Fifth Avenue Coach Company, New York, N. Y., has been made a major in the British Tank Corps now in active service in France. He left the coach company last spring to become a captain in the Tank Corps, and has in the last year participated in practically every tank "show" on the western front, including the Cambrai attack. Major Green returned to the front last month after a short furlough, during which he visited New York.

**C. Nesbitt Duffy**, vice-president and general manager of the Manila Electric Railway & Light Company, Manila, P. I., and also president of the Manila Merchants' Association, recently presided at a reception given in Manila in honor of **Paul S. Reinsch**, United States minister to China. In addition to the duties called for by these two offices, Mr. Duffy is also president of the Friendly Sons of St. Patrick in Manila, and at the annual banquet of that society on March 17, 1918, introduced several novel features. One of these was that none of the banqueters knew who the speakers would be until they were presented by the toastmaster. This added to the interest of the occasion.

**A. R. Piper**, general freight agent of the Brooklyn (N. Y.) Rapid Transit Company, has been appointed lieutenant-

colonel of the Quartermaster's Corps of the National Army and depot quartermaster in command of the New York depot, being advanced from the rank of captain, with which, in April, 1917, he was called back into active service by the President, and skipping entirely the intermediate rank of major. Colonel Piper was born at Fort Wadsworth, Staten Island, in 1865. He was graduated from West Point and served ten years in the regular army. He retired from active service in June, 1899, and since then has been employed in civil pursuits until recalled into the army. In March, 1904, he became general superintendent of the American Railway Traffic Company, a subsidiary of the Brooklyn Rapid Transit System, and subsequently general freight agent of the South Brooklyn Railway.

**Lewis A. Armistead**, an assistant to M. C. Brush, president of the Boston (Mass.) Elevated Railway, has been commissioned a first lieutenant in the officers' reserve of the Engineer Corps, U. S. A., and detailed to a regiment now being recruited to operate the military railways in France. Mr. Armistead has been in the company's service more than twenty years, for the past few years also having been assistant to the vice-president and to the chief of maintenance. A great grandson of Daniel Webster and a grandson of Gen. L. A. Armistead, who was killed in Pickett's charge at Gettysburg, Lieutenant Armistead personally saw service as a private in the Sixth Massachusetts infantry during the Spanish war, and was in action at Guanita, Porto Rico. He has been actively identified with the operation of the rapid transit and surface lines of the Boston company since the beginning of the present co-ordinated service.

**Edmund G. Simons**, assistant transit commissioner of Pittsburgh, Pa., has been called into active service as first lieutenant in the Engineer Reserve Corps. Mr. Simons was graduated from Union College, Schenectady, N. Y., in 1905. He has had experienced which fits him particularly well for this type of service. Approximately eleven out of the thirteen years since he left college have been spent on construction work as follows: One year ship canal construction, one year general contracting, two years sub-aqueous tunnels, four years steam and hydroelectric power station building and three years railroad construction in China. The remaining two years have been spent on studies for the relief of transit problems in Chicago and Pittsburgh.

**Morse W. Rew** has resigned as chief engineer of the Pittsburgh Transit Commission to become an assistant to A. M. Taylor, who is in charge of the division of passenger transportation of the Emergency Fleet Corporation. Mr. Rew was graduated from Grinnell College, Iowa, and from the Massachusetts Institute of Technology in the class of 1909. After completing his course at the latter he remained two years as an instructor in civil engineering. Following this he held a position as design-



ing engineer in the department of bridges, and in the port director's and Transit Commission's office in the city of Boston. From Boston Mr. Rew went to Cincinnati as designing engineer for the Transit Commission there. Later he became principal assistant with the Cincinnati Commission, but resigned from that place in 1916 to become chief engineer of the Pittsburgh Transit Commission. Both in Cincinnati and Pittsburgh Mr. Rew supervised extensive traffic surveys and studies which fit him for the patriotic and important work that he is now to undertake in the interest of the government.

## Obituary

Luther Kountze, head of Kountze Brothers, prominent New York bankers, is dead. Mr. Kountze was formerly in business in Denver, Col., and is said to have been president of the first street railway built in that State.

Edwin P. Seitz, line foreman of the Mahoning & Shanango Railway & Light Company, Youngstown, Ohio, was fatally injured recently when he came into contact with high voltage wires while doing some switching at the Lowellville substation of the Sharon Steel Hoop Company. Four days after the accident Mr. Seitz died.

Rufus Franklin Emery, aged forty-eight, secretary and treasurer of the Westinghouse Air Brake Company, an officer and director of several other important corporations, died suddenly on April 11 while seated at his desk in his office at the Air Brake works in Wilmerding. Mr. Emery was born near Boston. He became affiliated with the various Westinghouse Company interests in 1891.

Charles L. Wight, former auditor of the Des Moines (Iowa) City Railway, died on April 4 in Dallas, Tex. Mr. Wight retired from active work several years ago and his illness continued over a period of about three years. In addition to his connection with the Des Moines City Railway, Mr. Wight had been identified with electric railway work in Toledo, Chicago and several other cities.

Bernard Gallagher, a director in many corporations and a retired building contractor, died in his eightieth year at his home in Brooklyn on April 19. Mr. Gallagher was president of the Brooklyn, Queens County & Suburban Railroad, and of the Metropolitan Engineering Company, and a director of the Brooklyn Heights Railroad, the Brooklyn Rapid Transit Company, the Edison Electric Illuminating Company of Brooklyn, the Kings County Electric Light & Power Company, the Manufacturers' Trust Company, the New York Consolidated Railway, the New York Municipal Railway and a number of other corporations.

# Construction News

## Recent Incorporations

**Chatham County Traction Company, Savannah, Ga.**—A charter has been granted to the Chatham County Traction Company for the construction of an electric line from a connection with the Savannah Electric Company's line at the intersection of Augusta Avenue with Lathrop Avenue, Savannah, to Port Wentworth, about 6 miles. Capital stock, \$150,000. The incorporators include H. C. Foss, secretary of the Savannah Electric Company; W. W. Osborne, A. A. Lawrence, David S. Atkinson and Edmund H. Abrahams, all of Savannah. [April C, '18.]

**Wichita-Southern Interurban Railway, Wichita, Kan.**—Incorporated to construct a line from Wichita to Derby, Mulvane, Belle Point, Arkansas City, Winfield and other points. Capital stock, \$2,000,000. Incorporators: Schuyler Jones, David Alter, W. I. Funk and C. S. Drake, all of Wichita. [April 20, '18.]

## Franchises

**Mobile, Ala.**—The Mobile Light & Railroad Company will ask the City Commission for a franchise to construct a single track connecting with the track now on Charleston Street at the intersection of St. Emanuel Street, southwardly along St. Emanuel Street to Texas Street and westwardly on Texas Street to connect with the line on Cedar Street, in order to provide the workers now employed in the ship-building plants in the southern part of the city with better street car facilities.

**Covington, Ky.**—The Cincinnati, Newport & Covington Railway now holds a perpetual franchise over all Covington streets that its line traverses, except those of the old town of Latonia. The decision of the United States Supreme Court in this case is referred to elsewhere in this issue.

**New York, N. Y.**—Officials of the New York & Queens County Railway are considering the proposition of applying to the Board of Estimate for a franchise to construct an extension from the Shell Road through Roosevelt Avenue to connect with the Alburts Avenue station of the Corona elevated line. This application for a franchise will supersede the application now before the board for a permit to build an extension of the company's lines from Kingsland Avenue to the Alburts Avenue station.

## Track and Roadway

**Pacific Electric Railway, Los Angeles, Cal.**—A new line is being built by the Pacific Electric Railway from the mouth of Quarry Canyon to the mouth of San Dimas Canyon, about 1 mile.

**Woodstock & Sycamore Traction Company, Genoa, Ill.**—Operation has been abandoned on the line of the Woodstock & Sycamore Traction Company between Sycamore and Marengo, and the rails, ties and equipment are being sold as junk.

**Chicago, Lake Shore & South Bend Railway, Michigan City, Ind.**—It is reported that the Chicago, Lake Shore & South Bend Railway will extend its lines in Indiana Harbor to that section of the city north of the canal.

**Fort Madison, Ia.**—Preparations will soon be made for the construction of the proposed line from Fort Madison to Nauvoo. C. W. Petsch, St. Paul, Minn., is the promoter of the line. [Aug. 12, '16.]

**St. Louis & Illinois Railway, St. Louis, Mo.**—Installation of trolley wires and additional tracks to permit the operation of street cars on the Free Bridge before June will commence in a couple of weeks, is the announcement made by Director of Public Utilities Hooke, following the issuance of a permit to the St. Louis & Illinois Railway. Two one-man cars will be placed in service at first on a fifteen-minute schedule. Other cars will be added as they are required. The permit obliges the company to build twelve blocks of tracks in East St. Louis within six months, and to use the interurban loop in St. Louis within thirty days after its completion. [March 16, '18.]

**Public Service Railway, Newark, N. J.**—The Public Service Railway, on account of the United States Shipping Board for the Emergency Fleet Corporation, will erect two pay-as-you-enter terminals and loops at the South Camden and Gloucester shipyards, which will provide loading space for ten cars and storage accommodations for thirty cars. The cost of the work will be defrayed by the government.

**Trenton, N. J.**—The City Commission of Trenton is seeking the aid of the federal government in the plan to equip a direct trolley system between Trenton and Tullytown and Bristol, Pa., to the center district of Trenton, which co-operation is made possible through the enactment of recent legislation by Congress. The City Commission wants the New Jersey & Pennsylvania Joint Bridge Commission to grant a fran-



chise to the Trenton, Bristol & Philadelphia Street Railway to lay a system of trackage over the lower Delaware River bridge in South Trenton in the event of the federal government lending its approbation to the projected plan.

**Interborough Rapid Transit Company, New York, N. Y.**—The Public Service Commission for the First District recently received bids for the installation of tracks, including the furnishing of part of the track materials for the extension of the Interborough subway in Flatbush Avenue and Eastern Parkway, Brooklyn, and for the Nostrand Avenue branch of the same line. The contract also provides that if the government agrees to release the necessary steel for the construction of Route No. 31—the Livonia Avenue elevated extension of the Eastern Parkway line—so that the track installation there may be begun by the time the work in Flatbush Avenue, Eastern Parkway and Nostrand Avenue and also on the so-called Brighton Beach connection is completed, that work will be included. The Brighton Beach connection, so-called, begins at Malbone Street and the present Brighton Beach line in Brooklyn and extends as a subway under Flatbush Avenue contiguous to the Interborough subway and thence under the Flatbush Avenue station of the Long Island Railroad and under St. Felix Street and Fulton Street to a connection with the Fourth Avenue subway. It is believed that the Brighton Beach line and the Eastern Parkway line will be ready for operation by or about the end of the year and the Nostrand Avenue line a short time later. The lowest bid received was from Holbrook, Cabot & Rollins Corporation and George W. McNulty, New York, at \$600,569. A tabulation of the recent bids received by the commission for the construction of Route 49, Section 3, the last section of the Culver line in Brooklyn, showed the lowest bidder to be the Bethlehem Steel Bridge Corporation, whose total bid based on alternative contract forms were for one type \$432,100, for another type \$419,020, and for a third type \$427,860.

**New York & Queens County Railway, New York, N. Y.**—Justice Van Sielen has denied the petition of the New York & Queens County Railway which asked for a suspension until after the war of the mandamus order compelling it to extend its Flushing Avenue line in Astoria from Ehret Avenue to Jackson Avenue, Corona. The work was to begin on April 1 and be completed by Aug. 31 this year.

**Guelph (Ont.) Radial Railway.**—A report from the Guelph Radial Railway states that the company will place contracts within the next three months for the reconstruction of about 2000 ft. of track with Lorain 335-80-lb. T-rail, concrete construction.

**Hull (Que.) Electric Railway.**—This company proposes to construct 7000 ft. of new double track on Montcalm Street and Chelsea Road, Hull.

**Rhode Island Company, Providence, R. I.**—City Engineer Bronsdon has been requested by R. H. Flannery, Director of Housing for the United States Shipping Board, to submit estimates of the cost of extending the Rhode Island Company car line from Eddy Street through Ernest Street, across Allen's Avenue and on to the municipal dock at Field's Point, a distance of slightly more than a mile. It is practically assured that the federal government will finance the cost of the extension, as a convenience to the hundreds of employees who will soon be at work at the government boiler factory and at the ship outfitting plant of the Lord Construction Company there.

**Dallas (Tex.) Railway.**—The City Commission of Dallas has approved an application covering proposed improvements to be made by the Dallas Railway amounting to approximately \$500,000. This is part of the proposed expenditure of \$1,000,000 referred to elsewhere in this issue.

**Rutland Railway, Light & Power Company, Rutland, Vt.**—Announcement has been made by the Rutland Railway, Light & Power Company that, following out its general policy of conservation, it will discontinue its branch trolley line from Castleton Corners to Lake Bomoseen and will dismantle the road and remove the rails, part of which will be used in repair work and the balance sold.

**Seattle (Wash.) Municipal Street Railway.**—A proposal to extend the Seattle Municipal Street Railway from First Avenue South on Washington Street to Third and Fourth Avenues, with a spur on Third Avenue and a landing platform on Yesler Way, submitted by Councilman Oliver T. Erickson, chairman of the city utilities committee, is receiving serious consideration. The cost of the extension is estimated at about \$85,000. City Engineer Dimock recently announced that construction work on the line, which will extend to the shipyard district, will begin immediately and that, barring unforeseen delays in the arrival of the necessary materials or in the condemnation proceedings, will be ready for operation within six months. The line, according to present plans will extend from First Avenue South and Washington Street to the West Waterway, where it will connect with the Lake Burien line, known as Division C. In case the city utilities committee favors the proposal of Councilman Erickson, work on the elevated section from Fourth Avenue to First Avenue South on Washington Street will proceed apace with other construction proposed. The city engineering department has recommended to the Board of Public Works that the bid of D. W. Rutherford, of Tacoma, of \$42,262 for the construction of the trestle portion of the line from Holgate Street to Washington Street, be accepted. A call for bids for track and overhead construction will be made by the Board of Public Works in the near future.

## Shops and Buildings

**Connecticut Company, New Haven, Conn.**—Improvements will be made by the Connecticut Company to its freight house on Pratt Street, Meriden, which will greatly facilitate the handling by the company of incoming and outgoing shipments.

**Boston (Mass.) Elevated Railway.**—Within a few weeks the Boston Elevated Railway will open its new Everett terminal on Broadway opposite Thordike and Washburn Streets. It is probable that most of the Everett and Malden cars will enter this terminal.

**Gulfport & Mississippi Coast Traction Company, Gulfport, Miss.**—A contract has been awarded to C. A. Thompson, Biloxi, by the Gulfport & Mississippi Coast Traction Company for the construction of a station at U. S. Naval Training Camp at a cost of \$3,000.

**Northern Ohio Traction & Light Company, Akron, Ohio.**—Work has been completed on the new terminal building of the Northern Ohio Traction & Light Company at Main and Federal Streets, Akron, which has been under construction for the past year. The company will move into its new quarters May 1.

**Lake Shore Electric Railway, Cleveland, Ohio.**—Fire recently partially destroyed the carhouse of the Lake Shore Electric Railway together with six coaches. The loss is estimated at \$50,000.

**Nipissing Central Railway, North Cobalt, Ont., Can.**—This company will construct an addition to its carhouse.

**Norfolk & Western Railway, Bluefield, W. Va.**—Plans are being made by the Norfolk & Western Railway to reconstruct its machine shop in Wilcoe which was recently destroyed by fire.

## Power Houses and Substations

**Selma (Ala.) Traction Company.**—It is reported that extensive improvements will be made by the Selma Traction Company to its power plant.

**Manchester Traction, Light & Power Company, Manchester, N. H.**—A contract has recently been awarded by the Manchester Traction, Light & Power Company for the construction of a power house and dam in the Greggs Falls district of Goffstown. French & Hubbard, Boston, are the engineers.

**Nova Scotia Tramways & Power Company, Halifax, N. S.**—It is reported that the Nova Scotia Tramways & Power Company contemplates the purchase of new cars, electric equipment and generating machinery.

**Choctaw Railway & Lighting Company, McAlester, Okla.**—It is reported that the Choctaw Railway & Lighting Company will construct an electric system in Hartshorne.



# Manufactures and the Markets

DISCUSSIONS OF MARKET AND TRADE CONDITIONS

FOR THE MANUFACTURER, SALESMAN AND PURCHASING AGENT

ROLLING STOCK PURCHASES • MARKET QUOTATIONS • BUSINESS ANNOUNCEMENTS

## G. E. Business Jumps

The Orders Received in 1917 Increased  
\$77,000,000 or 45 Per Cent—Sales  
Billed Rose \$62,000,000

In the calendar year 1917 the volume of business of the General Electric Co., Schenectady, N. Y., far exceeded that of any previous year. The value of orders received, compared with those of the preceding four years, was as follows:

	Electrical and Mechanical	War Munitions	Total
1917	\$246,778,491		\$246,778,491
1916	167,169,058	\$2,416,000	169,585,058
1915	98,385,891	33,980,000	132,365,891
1914	83,748,521		83,748,521
1913	111,819,142		111,819,142

A substantial portion of the large increase of \$77,193,433 or 45.5 per cent. for the last year consisted of orders for ship propulsion and other apparatus placed by and for the United States government; but the increase extended to nearly every line of the company's product. Higher prices were also a factor in the larger total value of orders.

The amount of sales billed in 1917, as shown in the accompanying statement, was \$196,926,317, an increase of \$62,684,027 or 47 per cent. The large increase in sales during the last two years has made it necessary to add to manufacturing facilities to an extent entirely without precedent. During the year \$22,320,895 was expended for land, buildings and other structures, tools, machinery and smaller equipment and fixtures. In view of the prevailing high prices of all material and other unusual conditions, the sum of \$13,287,249 was charged against income and general reserve as depreciation and additional plant reserves, resulting in a net increase, in the book value of plant and equipment, of \$9,033,645. Expenditures of \$13,000,000 for further plant extensions, to be completed in 1918, were authorized.

The large increase in the volume of orders naturally involved corresponding increases in merchandise inventories and in customers' notes and accounts receivable. After the deduction of reserves, the merchandise in factories, district warehouses and elsewhere has a net book value of \$81,851,310, an increase of \$30,690,671 for the year. Customers' notes and accounts receivable, after the deduction of reserves, are carried at a net book value of \$38,406,993, which is \$11,590,695 more than the balance outstanding at the close of 1916.

The additional capital absorbed in plant extensions, inventories and customers' accounts amounted to \$77,602,-

## INCOME STATEMENT OF GENERAL ELECTRIC COMPANY FOR CALENDAR YEAR, 1917

Net sales billed		\$196,926,317
Cost of sales billed, including all operating, maintenance and depreciation charges		167,921,777
		\$29,004,540
Interest and discount	\$1,433,317	
Income from securities	2,661,150	
Sundry revenue	417,822	4,512,290
		\$33,516,830
Net income		\$33,516,830
Interest on debentures	\$571,645	
Interest and discount on notes payable	541,357	1,113,002
		\$32,403,828
Excess profits tax, estimated		5,500,000
		\$26,903,828
Profit available for dividends		\$26,903,828
Dividends on stock:		
8 per cent cash	\$8,120,648	
1 per cent cash "Red Cross"	1,015,078	
2 per cent stock	2,030,156	11,165,882
		\$15,737,946
Net surplus for the year		\$15,737,946
Surplus, Jan. 1, 1917		34,160,753
		\$49,898,699
Total surplus		\$49,898,699

262, in order to provide for which, in part, the company issued short term notes. The balance outstanding on Dec. 31 was \$27,757,721. It is expected that with the return of normal business conditions, sufficient cash will be released by a reduction in inventories and customers' notes and accounts to provide for two note issues aggregating \$25,000,000.

On Nov. 24, 1917, the board of directors declared, in addition to the regular cash dividend, a semi-annual dividend of 2 per cent, payable in stock at par. This action was taken in view of the large surplus from accumulated earnings covering a period of years, invested in manufacturing facilities, working capital and other assets, against which no stock had been issued. The directors preferred, rather than to increase the rate of cash dividends, to adopt the policy of paying semi-annual stock dividends at the rate of 4 per cent per annum, payable in January and July, in addition to the regular 8 per cent cash dividends.

The federal taxes for 1917, including the income tax at 6 per cent \$1,789,508, which was absorbed in cost of sales, and the estimated excess profits tax of \$5,500,000, will amount to \$7,289,508.

For a number of years it has been the practice of the directors to provide against contingencies by setting aside substantial reserves. An examination of these reserves has made it clear that a proportion of them is unlikely to be used for the purpose originally intended, and this amount, estimated at about \$12,000,000, has been set apart as a general reserve against all assets of the company other than its plant investment.

## Railway Material Deliveries

Embargoes Are Suspended at Times—  
Release Orders on Shipments Are  
Issued and Sought

Occasionally the freight embargoes lift or are suspended temporarily. When this occurs, and shippers and consignees of electric railway material are on the lookout, goods which have been awaiting such an opportunity slip through and reach their destination. Not always, however, without mishap. A carload of gears and pinions consigned to a New York City company came through on a release order last week under these circumstances. It had been urgently needed for some time, and every chance to get it through was eagerly watched. Generally speaking, deliveries on gears and pinions are easier, prices remaining unchanged.

Another shipment of gears and pinions from a Western point, consisting of four distinct orders, was placed in the same car. Somewhere en route the contents were transferred to another car and sent over another line. Of course, the transshipment was effected without ceremony, not to say without the slightest regard for the various invoices and their arrangement by the indifferent trainmen. On arrival in New York the consequences of such carelessness were apparent. Everything had been thrown into the car helter-skelter, and a general mix-up was the result. It took two days to straighten out the tangle. Shipments of splicing sleeves, trolley ears, high-tension porcelain insulators, frogs, cross-overs, headlights, couplers, rail bonds and tools, unless special, are being made out of stock. Delivery is from two to four weeks to all Eastern points, subject to the delays of existing embargoes. It is believed that the recent order of the War Industries Board, which places these items in Preference List No. 1 only when intended for concerns engaged directly or indirectly in the production of war material, will expedite shipments to those roads in which the government is especially interested as regards transportation of workmen engaged in government work. Prices remain steady and no increase is anticipated.

A recent order of the Public Service Commission for the First District of New York for the discontinuance of turnstiles on the Brooklyn Rapid Transit Company's elevated system, is accepted with every evidence of satisfaction by the fare-box people. They now argue that the field is open for the general adoption of their devices to supersede the condemned turnstiles on the company's station platforms.



## Orders Should Be Placed For Coal Supply

Any Modification in Zoning Plan Will Restrict Rather Than Enlarge Source of Supply

In a statement urging the immediate placing of orders for coal supply the U. S. Fuel Administration says:

"The Fuel Administration has been advised that coal consumers in some sections of the country are withholding their orders for coal in the expectation that the zone of distribution may be altered in a way that will broaden their sources of supply. It should be distinctly understood by coal producers, coal dealers and coal consumers that the regulations carrying out the "zoning order" of the distribution of coal consumption were adopted in conjunction with the Railroad Administration, after the most careful study of the whole problem.

"Any modification of the zoning plan that may be made will be in the direction of further restriction rather than toward enlarging sources of supply.

"War demands for coal as the year advances may demand still further restrictions of the consumer's freedom to choose coal.

"There should, therefore, be no further delay upon the part of coal dealers and coal consumers in placing their orders for their coal supply. Patriotism demands that orders be placed at once in order that the railroads may realize the exact transportation movement demanded for coal, and in order that production may be maintained at a maximum."

## Standard Catalog Sizes

Conference Called by Committee of Purchasing Agents' Association —Differences of Opinion

Catalogs intended for preservation by purchasing agents are to be limited to one size hereafter, according to plans laid by the National Association of Purchasing Agents. A committee of that association has called a conference to discuss the matter in the La Salle Hotel, Chicago, on May 22.

At the Pittsburgh convention of purchasing agents the size 8½ in. x 11 in. was tentatively adopted with the proviso that it should be adhered to unless good reasons appeared for changing it. The committee has had the matter up with 575 associations, representing various industries and trades, and 287 trade paper publications. There seems to be quite a difference of opinion on this subject.

It has been urged also that the purchasing agents consider either now or in the very near future the matter of standardization of the sizes of other printed matter.

The first object will be to settle definitely upon the size for catalogs. After that has been accomplished if there is

subjects may be discussed to good advantage, because after all the purchasing agent is vitally interested in anything that will reduce the cost of doing business. Standardization is bound to produce favorable results.

The conference is open to everyone. Every association representing industry in any form is invited to send representatives to discuss these various phases with the committee. The desire of the committee is to have all facts before it reaches a decision, so that after it has arrived at a conclusion there will be no cause for objection. Those interested are requested to communicate with the chairman of the committee, W. L. Chandler, care Dodge Sales & Engineering Company, of Mishawaka, Ind.

## Western Electric Company Staff Changes

Western Electric Company, New York, N. Y., announces the appended changes in its organization staff: W. P. Hoagland, sales manager, Chicago, Ill.; G. T. Marchant, sales manager, Richmond, Va.; J. H. Symonds, stores manager, Minneapolis, Minn.; George M. Dunn, manager, Philadelphia, Pa.; Jerome D. Kennedy, assistant contract sales manager, Hawthorne, Ill.; Joseph L. Ray, manager, Pittsburgh, Pa.; Howard W. Hall, Southern district manager, Atlanta, Ga.; Jay B. Odell, succeeds Mr. Hall in Richmond, Va.; Clark H. Minor, special to China and Japan; Fred B. Gleason, contract sales manager, New York, N. Y.; Henry L. Grant, sales department, New York office.

## Rolling Stock

Nova Scotia Tramways Power Company, Halifax, N. S., is reported as contemplating the purchase of cars, equipment and generating machinery.

Monroe (La.) Municipal Street Railway has been authorized by a vote of the Council to purchase four rebuilt cars from the Shreveport (La.) Railway for \$13,000, as referred to in the ELECTRIC RAILWAY JOURNAL of April 6.

Washington Water Power Company and the Spokane Traction Company, Spokane, Wash., are remodeling more of the two-man cars into the one-man cars for use on city lines. The former is having 40 of its cars remodeled and the latter is having five remodeled, all of which are expected to be put into service soon. With the inception of one-man cars on two of its lines the Washington Water Power company is changing from 15 to 10-minute service.

Public Service Railway, Newark, N. J., on account of the U. S. Shipping Board for the Emergency Fleet Corporation will erect two pay-as-you-enter terminals and loops at the South Camden and Gloucester shipyards, which will provide loading space for ten cars and storage accommodations for thirty cars. The cost of the work will be defrayed by the government.

Brooklyn (N. Y.) Rapid Transit Company, which has asked for specifications on fifty new center-entrance trail cars, the opening of the bids being deferred several times, as noted in the ELECTRIC RAILWAY JOURNAL, will, according to official advices, dispose of the entire matter Monday, April 29.

Philadelphia (Pa.) Railways, practically abandoned, has been rehabilitated, as mentioned in the ELECTRIC RAILWAY JOURNAL of April 6, and will build a double-track extension over the Penrose Ferry Road, to the Hog Island shipyards. Additional cars will be furnished by the United States Shipping Board Emergency Fleet Corporation, which also assumes financial responsibility for the entire program. The

rolling stock is not new, but is being obtained from the surplus equipment of another system.

Miami (Fla.) Traction Company is reported as in the market for gasoline or kerosene motor cars.

Dallas (Tex.) Railways will purchase twelve one-man cars at a cost of \$64,710, in accordance with approval granted by the City Commission under the service-at-cost franchise.

Fort Wayne & Northern Indiana Traction Company, Fort Wayne, Ind., having placed an order with the St. Louis Car Company, as mentioned in the ELECTRIC RAILWAY JOURNAL of April 13, for 25 new cars, furnishes the specifications that follow:

Number of cars ordered	.....25
Name of road	.....Ft. Wayne & Northern Ind. Co.
Date order was placed	.....April 8, 1918
Date of delivery	.....Aug. 15, 1918
Builder of car body	.....St. Louis Car Co.
Type of car	.....Semit-convertible
Seating capacity	.....34
Weight (total)	.....15,000 lb.
Length over bumpers	.....30 ft. 0 in.
Length over vestibule	.....18 ft. 6 in.
Width over all	.....8 ft. 6 in.
Height, rail to trolley base	.....11 ft. 0 in.
Body	.....Semi-steel
Interior trim	.....Birch and cherry
Headlining	.....Agasote
Roof	.....Arch
Air brakes	.....Westinghouse Traction Brake D. H. 10
Axles	.....Open Hearth Steel
Bumpers	.....Channel
Car trimmings	.....Bronze
Conduits and junction boxes	.....Crouse-Hinds
Control, type	.....K 63 B
Couplers	.....Shackle bar pocket
Curtain fixtures	.....Ring 88
Curtain material	.....Pantasote
Designation signs	.....Keystone
Door operating mechanism	.....St. Louis Car Co.
Fare boxes	.....Cleveland
Gears and pinions	.....Gen. Elec. Co.
Hand brakes	.....Peacock, no staff
Heaters	.....Peter Smith Electric
Headlights	.....Golden Glow
Journal boxes	.....St. Louis Car Co.
Lightning arresters	.....G. E.
Motors, type and number	.....G. E., 258, inside hung
Paint, varnish or enamel	.....Railway Co.'s Standard
Sanders	.....O. B. valves, Keystone traps
Sash fixtures	.....O. M. Edwards
Seats, style	.....Hale & Kilburn, cross and longitudinal
Seating material	.....Rattan
Step treads	.....Feralun
Trolley catchers or retrievers	.....O. B. catcher
Trolley base	.....U. S. 15
Trolley wheels or shoes	.....6 in. wheel
Trucks, type	.....St. Louis Car Co. No. 113 B
Ventilators	.....Garland
Wheels (type and size)	.....26-rolled steel
Special devices, etc.	.....Forsyth beadless brass sash



Trade Notes

Russell A. Griffin, for fourteen years manager of the Western Electric Company's pole department at the New York office, on April 1 became vice-president of the National Pole Company, Spokane, Wash., with headquarters in New York.

Robert S. Blake, formerly connected with the Condit Electric & Manufacturing Company, Boston, Mass., as its Pittsburgh, Pa., representative, is now district manager for the Duquesne Electric & Manufacturing Company, with its Chicago office at 230 South La Salle Street.

Perry Ventilator Company, Boston, Mass., has received the order for ventilators in the fifty new center-entrance trail cars to be ordered by the Brooklyn (N. Y.) Rapid Transit Company, according to an agreement with the Public Service Commission of the First District.

Thomas M. Cluley, who has been associated with the Union Electric Company for the last twenty-two years, has joined the forces of the W. A. McCombs & Co., Pittsburgh. The McCombs Company manufactures safety switches and is territorial representative of a number of well known manufacturers.

Laco-Philips Company of 131 Hudson Street, New York City, has placed upon the market a glass product under the trade name of "Laco-daylite," which, it claims, will permit correct determina-

tion of color values. It is made by chemically treating plain glass and comes in standard sizes and shapes for all reflectors on the market. It is designed for places where color values or accurate measurements are especially important.

Herbert A. Jackson has been elected president of the Chicago Pneumatic Tool Company of Chicago, to succeed W. O. Duntley, resigned. Mr. Jackson has for some time been connected with the Bethlehem Steel Corporation and was more recently head of its Boston office. He has had charge of the sales in that territory, and it is considered probable at Chicago that he will readjust the sales methods of the Chicago company.

J. D. Elsom has joined the staff of the Economy Electric Devices Company, Chicago, as engineer. He will be engaged in the engineering work preliminary to and during the installation of energy saving campaigns using the Sangamo watt-hour meter, for which the above company has the exclusive sales. Mr. Elsom has been engaged in similar work for the Railway Improvement Company for the past five years, previous to which time he was with the Chicago Railways Company as engineer of equipment. Other railways with which Mr. Elsom was connected directly following his engineering studies at college were the Metropolitan Street Railway, New York, and the New York Central, electrical department. His headquarters will be at the general office of the Economy Electric Devices Company, Old Colony Building, Chicago.

New Advertising Literature

Magnesia Association of America, Philadelphia, Pa.: Anniversary advertising portfolio, entitled "85 Per Cent Magnesia," for 1917.

Roth Brothers & Company, Chicago, Ill.: Circular describing the Rothmotor forge blowers. Other electrically operated machines are also illustrated in the circular.

Bailey Meter Company, Boston, Mass.: Bulletin No. 41, entitled "How to Save Coal," illustrates and describes the Bailey boiler meter, with a partial list of concerns having it in use.

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.: Catalog 1-A, February, 1918, superceding catalog 1-A dated May, 1916, which illustrates and furnishes a detailed description of the company's lightning arresters.

Guaranty Trust Company, New York, N. Y.: Pamphlet entitled "Banking Service for Foreign Trade," explaining the bank's facilities in this department. Copies may be had on application.

Ohio Brass Company, Mansfield, Ohio: Supplement No. 1, Feb. 1913, containing additions and improvements to the O-B materials listed in general catalog No. 16. The new types and improvements on various railway material and line equipment are described in comparison with former models.

NEW YORK METAL MARKET PRICES

	April 17	April 24
Copper, ingots, cents per lb.	23 1/2	23 1/2
Copper wire base, cents per lb.	26 1/2 to 26 3/4	26 1/2 to 26 3/4
Lead, cents per lb.	6.95	6.90
Nickel, cents per lb.	50	50
Spelter, cents per lb.	7	6.87 1/2
Tin, Straits, cents per lb.	90	90
Aluminum, 98 to 99 per cent., cents per lb.	*32.10	*32.10

\* Government price in 50-ton lots, f.o.b. plant.

OLD METAL PRICES—NEW YORK

	April 17	April 24
Heavy copper, cents per lb.	22	22
Light copper, cents per lb.	19 1/2	19 1/2
Red brass, cents per lb.	18	18
Yellow brass, cents per lb.	13	13
Lead, heavy, cents per lb.	6 1/2	6
Zinc, cents per lb.	5 1/2	5 1/2
Steel car axles, Chicago, per net ton	\$41.52	\$41.52
Old earwheels, Chicago, per gross ton	\$29.00	\$29.00
Steel rails (scrap), Chicago, per gross ton	\$34.00	\$34.00
Steel rails (relaying), Chicago, gross ton	\$60.00	\$60.00
Machine shop turnings, Chicago, net ton	\$16.25	\$16.25

ELECTRIC RAILWAY MATERIAL PRICES

	April 17	April 24		April 17	April 24
Rubber-covered wire base, New York, cents per lb.	27 to 30	27 to 30	Galvanized wire, ordinary, Pittsburgh, cents per lb.	3.95	3.95
Weatherproof wire (100 lb. lots), cents per lb., New York	28 1/2 to 34 1/2	28 1/2 to 34 1/2	Car window glass (single strength), first three brackets, A quality, New York, discount	80% to 82-3%	80% to 82-3%
Weatherproof wire (100 lb. lots), cents per lb., Chicago	33.42 to 38.35	33.42 to 38.35	Car window glass (single strength), first three brackets, B quality, New York, discount	79%	79%
T rails (A. S. C. E. standard), per gross ton	\$70.00 to \$80.00	\$70.00 to \$80.00	Car window glass (double strength, all sizes AA quality), New York discount	80%	80%
T-rails (A. S. C. E. standard), 500-ton lots, per gross ton		\$65.00	Waste, wool (according to grade), cents per lb.	11 1/2 to 22	11 1/2 to 22
T-rails, high (Shanghai), cents per lb.	4 1/2	4 1/2	Waste, cotton (100 lb. bale), cents per lb.	12 1/2 to 13	12 1/2 to 13
Rails, girder (grooved), cents per lb.	4 1/2	4 1/2	Asphalt, hot (150 tons minimum), per ton delivered	\$38.00	\$38.00
Wire nails, Pittsburgh, cents per lb.	3 1/2	3 1/2	Asphalt, cold (150 tons minimum, pkgs. weighed in, F. O. B. plant, Maurer, N. J.), per ton	\$42.00	\$42.00
Railroad spikes, drive, Pittsburgh base, cents per lb.	4 1/2	4 1/2	Asphalt filler, per ton	\$45.00	\$45.00
Railroad spikes, screw, Pittsburgh base, cents per lb.	8	8	Cement (carload lots), New York, per bbl.	\$2.65	\$2.65
Tie plates (flat type), cents per lb.	*3 1/2	*3 1/2	Cement (carload lots), Chicago, per bbl.	\$2.71	\$2.71
Tie plates (brace type), cents per lb.	*3 1/2	*3 1/2	Cement (carload lots), Seattle, per bbl.	\$3.05	\$3.05
Tie rods, Pittsburgh base, cents per lb.	8	8	Linseed oil (raw, 5 bbl. lots), New York, per gal.	\$1.59	\$1.59
Fish plates, cents per lb.	*3 1/2	*3 1/2	Linseed oil (boiled, 5 bbl. lots), New York, per gal.	\$1.60	\$1.60
Angle plates, cents per lb.	*3 1/2	*3 1/2	White lead (100 lb. keg), New York, cents per lb.	10	10
Angle bars, cents per lb.	*3 1/2	*3 1/2	Turpentine (bbl. lots), New York, cents per gal.	42	43 1/2
Rail bolts and nuts, Pittsburgh base, cents per lb.	4.90	4.90			
Steel bars, Pittsburgh, cents per lb.	5	5			
Sheet iron, black (24 gage), Pittsburgh, cents per lb.	4.90	4.90			
Sheet iron, galvanized (24 gage), Pittsburgh, cents per lb.	5.80	5.80			
Galvanized barbed wire, Pittsburgh, cents per lb.	4.35	4.35			

\* Government price.