

# Electric Railway Journal

A CONSOLIDATION OF

Street Railway Journal and Electric Railway Review

VOL. XXXIV.

NEW YORK, SATURDAY, OCTOBER 23, 1909

No. 16

PUBLISHED EVERY SATURDAY BY THE

## McGraw Publishing Company

James H. McGraw, President. J. M. Wakeman, 1st Vice-president.  
A. E. Clifford, 2d Vice-president. C. E. Whittlesey, Sec. and Treas.

Henry W. Blake, Editor.  
L. E. Gould, Western Editor. Rodney Hitt, Associate Editor.  
Frederic Nicholas, Associate Editor.

NEW YORK, 239 WEST THIRTY-NINTH STREET.

CHICAGO: Old Colony Building.  
PHILADELPHIA: Real Estate Trust Building.  
CLEVELAND: Schofield Building.  
LONDON: Hastings House, Norfolk St., Strand.

Cable Address, Stryjourn, New York; Stryjourn, London—Lieber's Code.  
Entered at the New York Post Office as Second Class Mail Matter.  
Copyright, 1909, by the McGraw Publishing Company.

### TERMS OF SUBSCRIPTION

United States, Hawaii, Puerto Rico, Philippines, Cuba, Mexico and Canal Zone.

ELECTRIC RAILWAY JOURNAL (52 weekly issues and also special daily convention issues published from time to time in New York City or elsewhere), postage prepaid. \$3.00 per annum  
Single copies.....10 cents

Combination Rate, in connection with American Street Railway Investments (The "Red Book"—Published annually in May; regular price, \$5.00 per copy).....\$6.50 per annum  
CANADA: extra postage.....\$1.50 per annum

To All Countries Other Than Those Mentioned Above.

ELECTRIC RAILWAY JOURNAL (52 weekly issues and also daily editions as above), postage prepaid.....\$6.00 per annum  
25 shillings. 25 marks. 31 francs.

Single copies.....20 cents  
Foreign subscribers may remit through our London office.

### NOTICE TO SUBSCRIBERS.

CHANGE OF ADDRESS.—The old address should be given, as well as the new, and notice should be received a week in advance of the desired change.

BACK COPIES.—For back copies of the ELECTRIC RAILWAY JOURNAL, STREET RAILWAY JOURNAL and ELECTRIC RAILWAY REVIEW, applications should be addressed to the McGraw Publishing Company. No copies of issues of the STREET RAILWAY JOURNAL or ELECTRIC RAILWAY REVIEW prior to January, 1908, are kept on sale except in bound volumes.

DATE ON WRAPPER shows the month at the end of which the subscription expires. The sending of remittances for renewal prior to that date will be much appreciated by the publishers.

*Of this issue of the ELECTRIC RAILWAY JOURNAL 9000 copies are printed.*

### Effect of Fare Change in Philadelphia

The last annual report of the Philadelphia Rapid Transit Company, covering the operations for the year ended June 30, 1909, contains an interesting analysis of the results of passenger traffic as compared with those of the preceding 12 months. Withdrawal early in May, 1909, of the arrangement by which the company sold tickets permitted a notable improvement in the showing. While the new scheme was in effect during less than two months of the fiscal year, its

influence is indicated by the average gross revenue per passenger carried of 3.94 cents for the year, as compared with 3.57 cents for the year ended June 30, 1908. This is an increase in the revenue per passenger carried of 10.6 per cent. It is evident that if so material a change is produced in the yearly comparison when the improvement in the fare situation was in force during less than two of the entire 12 months, a more impressive showing should be made in the future. There were corresponding changes in other respects, bearing upon the final result. The decline in the total number of passengers carried is indicated by the figures presented for the two years, 464,264,656 and 512,869,023 for 1909 and 1908, respectively. Of the total for 1908-09 cash was paid by 37.3 per cent, as compared with a corresponding figure of 14.8 per cent in the previous 12 months. These figures disclose to some extent the improvement which has been made, but the real financial benefits which the company will receive from the changes should be made plainer in the next annual report.

### Standardizing Details of Electric Railway Apparatus

An electric railway company on the Pacific Coast recently found that it had on hand a large number of trolley clamps which had been removed during the reconstruction of one of its overhead lines. They could have been used over again by renewing the screws, but when new screws were sought in the storekeeper's stock none could be found to fit. The original screws were not of any standard size, and it would have cost more to send East to the makers of the clamps for new screws than the second-hand clamps were worth. This same company had a similar experience in renewing a broken cap screw on a motor-generator set. The machine was out of commission for more than two weeks while a new screw was being shipped from the Atlantic Coast in response to an urgent telegram. Many other companies, doubtless, have experienced similar annoyances. No company can afford to fill its stock room with special sizes of nuts and bolts, screws and other small hardware which in general practice are well standardized, yet this is the only recourse for those which are situated far from the source of supply of their apparatus.

The trouble originates probably with the engineers who work out the designs of the apparatus and apply pure theory to attain the desired result. By a slight divergence from theory, which would in no essential affect the design, some standard part could be made use of. In the design of railway motors, for example, it would be difficult to find two different types of motors in which the same bearings could be used. The individuality of the designer is apparent in every detail. The men who design the apparatus are seldom sent out to install it, and even if they are they



rarely stay on the ground long enough to deal with the problem of making repairs and trying to replace parts which can be obtained only in a factory thousands of miles away.

The manufacturers of electric railway supplies and their customers are constantly getting closer together and working more and more in harmony. It is as much the duty of the railway companies to advise the manufacturers of their troubles in such matters as the one under discussion as it is the duty of the manufacturers to use every effort to avoid the possibility of creating similar difficulties in the future. Progress can be made only by the interchange of the results of experience.

### Spending Dimes to Earn Dollars

The operation of an electric railway involves so many engineering questions that a manager whose technical training overshadows his commercial instincts often fails to secure the best results, measured in net earnings, because of too keen a desire to handle the equipment in his charge from the standpoint of theoretical efficiency instead of adapting it to attract the greatest possible number of passengers. The chief engineer of a large system recently proved by experiment that if the motors under the cars were operated exactly in accordance with their characteristics, the power consumption could be cut down from 10 per cent to 20 per cent without affecting the schedule speeds then in force. When these figures were placed before him, the general manager admitted without hesitation that the economies outlined were perfectly feasible. He pointed out, however, that it might prove more profitable to raise the schedule speed of the cars so that more patronage might be obtained without increasing the amount of rolling stock required to handle it. Although the directors were anxious to keep the power expense to a minimum, the general manager even recommended the installation of extra lamps at all stations to make them more prominent and attractive. After some opposition, both recommendations were put into practice, with the result that the passenger traffic within a year grew far beyond the normal increase of preceding years. The public had been quick to recognize the improvement in the service, and the manager was able to demonstrate to his directors that the company could well afford to spend more money for power and lighting in view of the large increase in gross earnings.

### Exposing the Reckless Handling of Equipment

In looking over the daily "pull-in" list of any railway company the most conspicuous item is that under the heading of "Motor Failures." This is natural enough, since the armature, commutator and bearings require constant scrutiny. The car motors are in the joint care of the transportation and mechanical departments, both of which must perform their duties conscientiously if trouble is to be avoided, but where such a division of responsibility exists there are bound to be more or less acrimonious disputes as to what share of guilt should be assigned to each. Most disagreements of this kind may be avoided, and a healthful discipline may be instilled in both departments by following the unique photographic method started a couple of years ago by a Canadian railway company. Whenever a broken-down motor is brought into this company's shops

the defective part is removed at once and a photograph is taken of it if it is apparent that the trouble arose from an employee's negligence. Should the piece examined be a burnt-out armature which shows no evidence of poor winding or defective insulation, the failure may be justly ascribed to fast feeding; on the other hand, if the armature has fallen on the pole pieces because of low bearings, careless inspection is manifest. The photograph, with a brief explanation underneath, is then posted in the shop or division headquarters where the culprit is employed. In the same way, photographs could be taken of other objects, like dropped gear cases which have been dragged along the pavement for needlessly long distances. This practice has had such a salutary effect on the motormen and shopmen in showing them how bad work soon betrays itself that the occasions for making these photographs have become very rare.

### Carbon Brush Progress

Many electric railways are not in a position to assume the expense of making elaborate tests to determine the life and quality of different kinds of equipment. Such a task necessarily must be taken up either by the larger companies which possess the expert engineers and the proper research facilities or by some special committee of one of the electric railway associations. The great improvements in carbon brushes during the past two years afford a striking proof of the value of both the pioneer brush experiments made by several large companies and of the specifications drawn up last year by the committee of the American Street & Interurban Railway Engineering Association. Perhaps the most elaborate practical tests of carbon brushes were made by the Interborough Rapid Transit Company, of New York, and the Brooklyn Rapid Transit Company. The unusually severe operating conditions on the lines of these two companies not only developed the need for higher grade brushes, but also showed that even in normal service it pays to use the costlier brushes, because of the great decrease in commutator troubles. These private experiments were worthily supplemented by the standards prepared by the committee of the Engineering Association, and all the data so gathered have proved of the greatest educational value in making clear to the average railway man the qualities which are essential in a satisfactory brush and how to know that the brushes furnished fulfill the requirements. That the interest thus awakened in the carbon brush question has been cordially appreciated by the manufacturers is demonstrated by their production of higher grades, which can be sold on the sound basis of long life and freedom from trouble rather than lowest first cost.

### Electric Car Repairmen

The creation of a new trade of electric car repairman, suggested by W. H. Evans in a resolution presented to the American Street & Interurban Railway Engineering Association at Denver, has many arguments in its favor. The lack of good all-around repairmen in electric railway shops, especially in the smaller cities, is a serious handicap to economical maintenance. Specialization in all trades has obliterated the handy man who could do anything from painting to watch repairing. Men who can manipulate a



lathe or a drill press, do a little carpentry work, make a forging, splice a wire and clean windows are hard to find. The average electrical workman knows nothing of the construction and operation of railway motors and control apparatus, his electrical training having been received generally in the employ of some contractor who installs electric bells and house wiring for lights. To expect such a man to assume the responsibility of inspecting and repairing a motor armature is out of the question until he has had at least a few months' experience in the shops. In the established trades a journeyman can usually be depended upon to assume at once any duties of his trade, without more than perfunctory instructions. If it were possible to create a condition in the electric railway shops throughout the country whereby a new man presenting a certificate of previous employment as a car repairer could be given responsible work immediately, the problem of shop organization and management would be greatly simplified.

To establish such a trade and train a large number of capable and efficient workers would require the expenditure of much time and some money. Naturally, the larger companies, with their big shop organizations, would have to be depended upon to begin the work. After a time, however, the smaller shops could turn out well-trained journeymen who, in some respects, might be superior to the product of the large shops. The training of apprentices in steam railroad shops, as practised by the Pennsylvania, New York Central, Santa Fe and other large railroad systems, affords a good example of how the work might be started. Mr. Evans' suggestion is well worth careful consideration by the association and all the member companies.

### Kansas City Ordinance Introduced

The proposed extension ordinance of the Metropolitan Street Railway, of Kansas City, has been introduced formally into the City Council and referred to a committee of that body for proper consideration. Attention has been called in these columns heretofore to the argument of the company in answer to the criticism against the ordinance that it extends for 16 years a franchise which does not expire until 1925, and this argument gains strength as time passes. The tedious progress of the negotiations in other cities, and especially the interminable controversy in Cleveland, support the assertion of the management of the Kansas City company that postponement of action until near the date of expiration of existing rights has "brought about conditions which were highly detrimental, both to the interests of the company and to the interests of the community."

A reading of the text of the ordinance shows a close analogy between some of its provisions and those embodied in the Chicago contracts. While amendments have been offered since the introduction of the ordinance, the original measure provided that fares were not to be reduced before June 1, 1925, but from that date the city should have the right to regulate the rates by ordinance subject to the conditions that no rate should be fixed or allowed to remain in force "the effect of which is to reduce below 6 per cent the annual return upon the then capital investment," and that a fund should be established to amortize the capital investment. The fares, however, may be reduced under a provision outlining a method

whereby the city may apply its share of the earnings in this manner. The division of the net receipts between the city and company is to be on the basis of 50 per cent to each, with credit to the company for city license fees, if any are exacted and also with deduction, prior to the division, of 4 per cent of the net receipts for application to the credit of the capitalization account. The share of the city must be equal to at least 5 per cent of the gross receipts.

An effort is made in the language of the section relating to transfers to guard against the improper use of the privilege, which is intended to be universal. Existing privileges of this character are to be continued unless circumstances shall render them unreasonable, but under no construction are passengers to be enabled to make a "loop" trip with the payment of one fare. Important provisions are those reserving to the city the regulation of transfers and, at its election at any time, the right to confine the transfer privileges to the limits of Kansas City, Mo., or any one or more of several cities mentioned, which are tributary to that municipality. Power to restrict the use of transfers and to prevent, so far as possible, the abuse thereof, is clearly in the interest of the city, since it shares in the earnings.

The city may require extensions and connections where reasonably necessary for the convenience of the inhabitants of the city, but the aggregate prescribed shall not exceed on the average more than 2½ miles of double track, or 5 miles of single track.

Respecting "maintenance, repairs, renewals and depreciation" it is provided that the company "at all times shall maintain" the "system and its entire equipment, plant and appurtenances in first-class condition" by such expenditures "for maintenance, repairs or renewals as may be necessary or appropriate to give the public first-class street railway service in all respects." The expenditures for maintenance and repairs shall be equal to at least 12 per cent of the gross receipts. In addition thereto, the company, after Jan. 1, 1914, shall set aside monthly a sum equal to 4 per cent of the gross receipts to constitute a reserve fund to take care of renewals, betterments and depreciation. This is a minimum amount and does not lessen the obligation of the company to expend whatever sum may be necessary for maintenance, repairs, renewals and betterments to keep the system in first-class condition.

The city may purchase the property after 1924, but only for municipal operation in case of purchase prior to June 1, 1941. The present value in the event of purchase is fixed at \$33,500,000, and there would be added the value of additions and betterments properly chargeable to property account. The city may purchase subsequent to 1924, free from any restriction as to operation, at an equivalent price plus 10 per cent. The Kansas lines and property may be omitted by the city, if desired, in exercising the right to purchase. The beneficial interest of any licensee that may enter into a contract if purchase is made by the city shall be limited to a return of the actual money invested therein by the licensee and not exceeding 5 per cent in addition and interest upon the money and the additional per cent at a rate not exceeding 5 per cent per annum, all net profits in excess of the beneficial interest, as limited, to belong to the city.



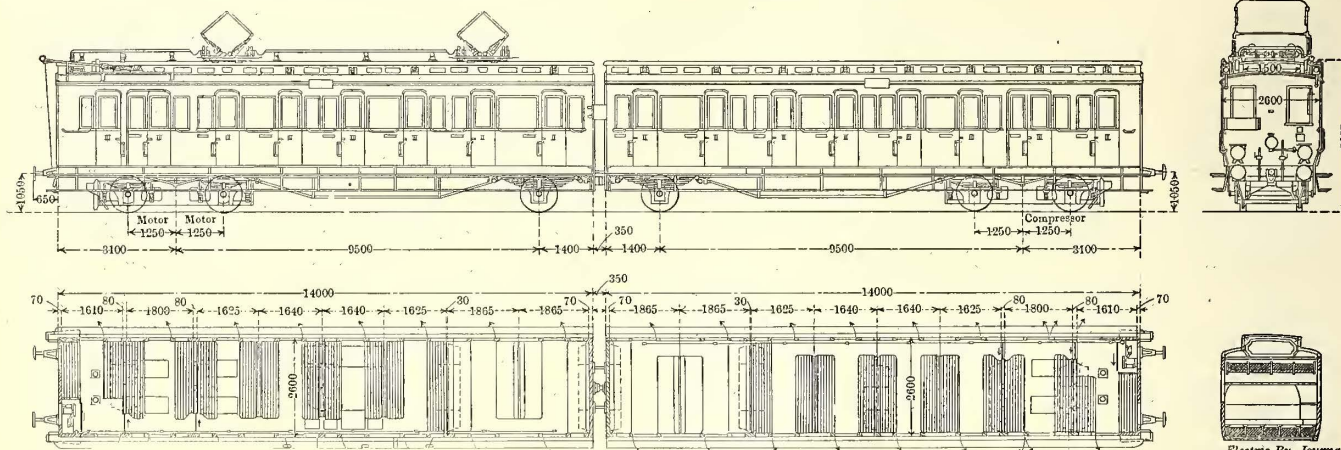
**RECENT IMPROVEMENTS ON THE HAMBURG-BLANKENESE-OHLSDORF HIGH TENSION, SINGLE-PHASE RAILWAY**

The Hamburg-Blankenese-Ohlsdorf Railway, which is a single-phase line connecting the city of Hamburg with both eastern and western suburbs, was completed on Jan. 29, 1908, and its main constructional features were described in the STREET RAILWAY JOURNAL for April 6 and Oct. 12, 1907. The original rolling stock consisted of 60

instead of three 115-hp motors. These larger motors are placed on the forward truck, while the rear truck is used only for the compressor apparatus. All trains are made up of motor cars only.

**MECHANICAL FEATURES OF THE NEW CARS**

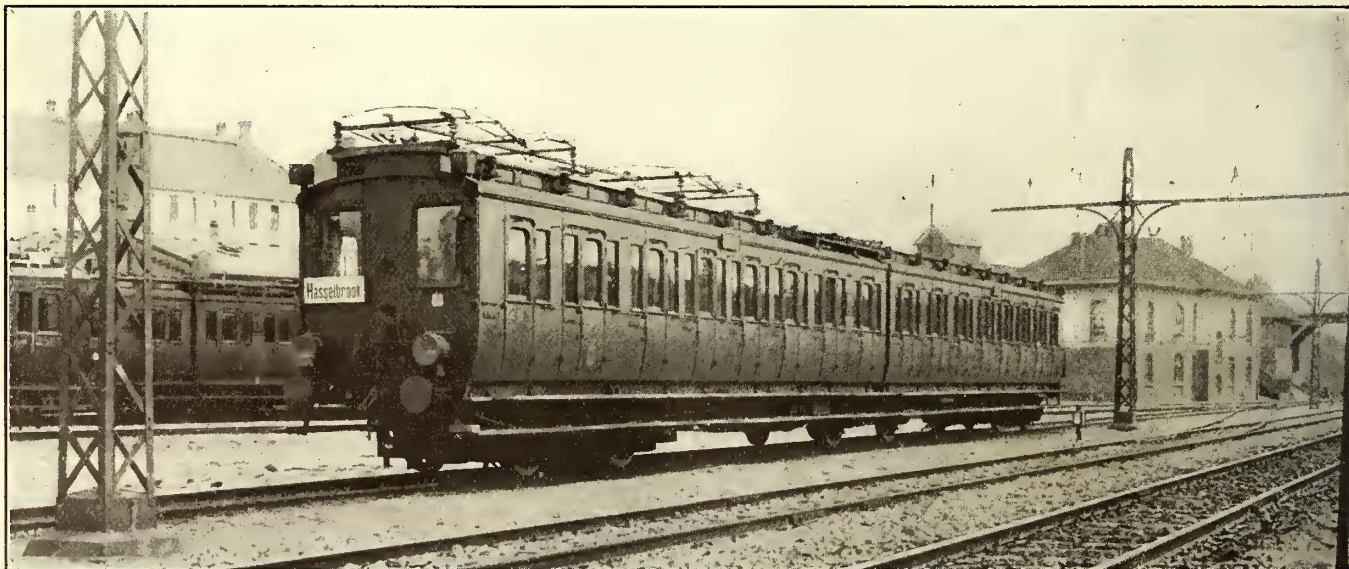
The first half of an A. E. G. motor car contains the high-tension chamber, the motorman's cab with five third-class and two second-class passenger compartments. The third-class compartment nearest the motorman's cab has folding seats, so that it can be used for express packages when



**Hamburg-Blankenese-Ohlsdorf Railway Improvements—Elevation, Plan and Sections of New A. E. G. Car (All Dimensions Are in Mm.)**

motor cars, 54 of which were furnished by the Allgemeine Elektricitats-Gesellschaft and 6 by the Siemens-Schuckert Werke. The coaches were of the so-called twin-car type; that is, a double body close-coupled and without intermediate platforms. Each of the Allgemeine cars carried three 115-hp Winter-Eichberg motors, two of which were car-

ried on the forward truck of the first half and one on the rear truck of the second half. The intermediate portion of the double car was mounted on two single axles. Since installing this equipment the railway management has ordered 42 additional motor cars from the Allgemeine company and eight, from the Siemens-Schuckert Werke.



**Hamburg-Blankenese-Ohlsdorf Railway Improvements—Latest Type of A. E. G. Motor Car**

ried on the forward truck of the first half and one on the rear truck of the second half. The intermediate portion of the double car was mounted on two single axles. Since installing this equipment the railway management has ordered 42 additional motor cars from the Allgemeine company and eight, from the Siemens-Schuckert Werke.

The new A. E. G. coaches have the same side arrangements as the original ones, but differ in other respects, particularly in the use of two 200-hp W E-70 motors per car

but there is no communication between the two classes or the two halves of the car. The average seating capacity of a complete car 28 m (91 ft.) over all is 120, and the weight without passengers 62 metric tons.

The roof is covered with grounded, leaded sheet iron, which is nailed to wood covered with duck cloth. The floor consists of a double layer of wood to which asbestos plates are nailed. A sheet-iron floor covering is also applied where there are no conduits. As in the case of the



original cars, the wiring was installed right side up before the floor was attached to the rest of the car body. This method was illustrated in the souvenir issue of the *STREET RAILWAY JOURNAL* dated Oct. 12, 1907. The cross-beams under the new cars are about 3 in. from the floor to allow the conduits to be attached to the floor throughout. The trucks have wheels 39.37 in. in diameter and a wheel base of 8 ft. 2 in. The Knorr compressed air brake system used on all cars applies the brake shoes only on the eight truck wheels. Hand brakes are also provided and a short-circuiting brake may be used in emergencies.

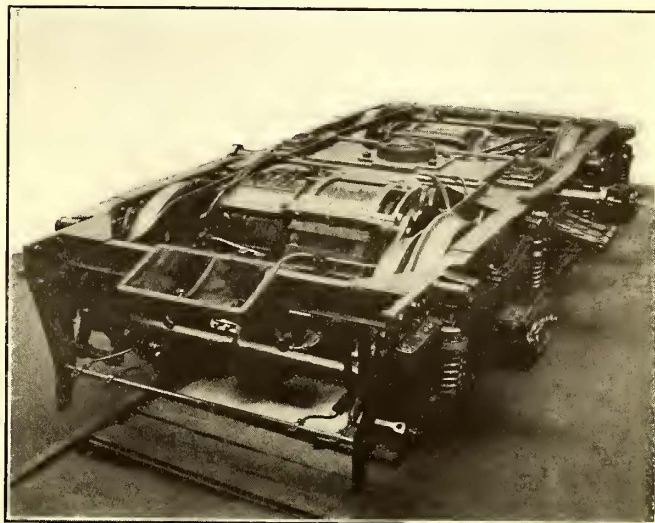
#### ELECTRICAL FEATURES OF THE NEW CARS

The cars are normally operated with current taken at 25 cycles, 6000 volts, but at the stations the trolley potential is only 300 volts. The high-tension, double-catenary trolley is zigzagged above the center of the track at heights varying from 15 ft. 9 in. under bridges to 17 ft. in the open; the low-tension trolley is 14 ft. 9 in. above the rails and from 4 ft. to 6 ft. off center. The high-tension current is collected by two bows on the first half of the car. These bows have aluminum contact pieces 4 ft. 3 in. long and are raised and lowered by air. The low-tension wheel collectors are mounted along opposite sides of the first car half, and as they cannot attain a height greater than 15 ft., there is no possibility of their coming into contact with the high-tension line.

The new W E-70 motors are of the interpole type and rated at 200 hp each on a one-hour basis when running at 500 r.p.m. with closed covers and rated at 100 hp each for continuous running. The weight of a motor alone is 6490 lb. and with gearing 7260 lb. The stator is a one-phase winding without crossings from other phases and consists simply of main and interpole coils connected in series. The interpole winding is joined to taps from the exciter transformer, by which it is so influenced that it delivers a practically correct cross-field to counterbalance the so-called transformer electromotive force. The latter is generated

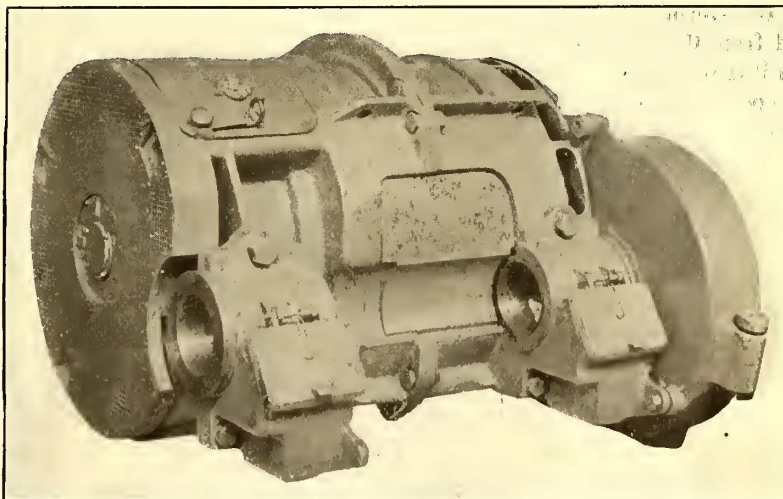
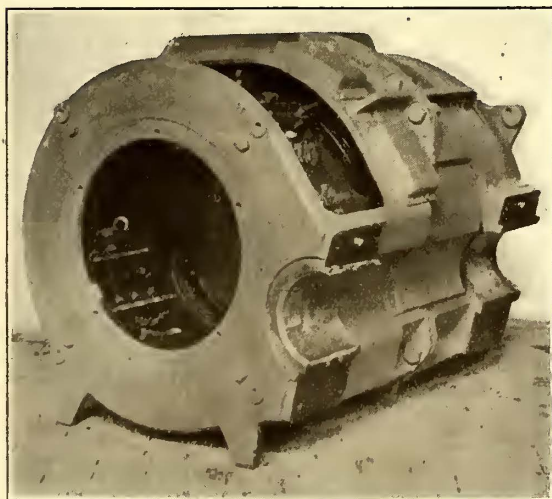
has windings of the normal d.c. form made of copper ribbon which are held in the half-closed slots with wooden wedges. The gear side of the armature has a centrifugal ventilator which drives air through the armature and commutator. There is no danger from dampness, as this air is not permitted to come into contact with current-carrying parts. The motor is lubricated with oil pads, which have been found effective and economical.

One of the accompanying drawings is a simplified diagram of the motor car connections. The high-tension cur-



Hamburg-Blankenese-Ohlsdorf Railway Improvements—  
Truck Carrying Two of the New Single-Phase Motors

rent, after passing through a choke coil and automatic oil switch, goes to the high-tension winding of the load transformer and is then grounded. This transformer has two low-tension coils, one with a maximum potential of 780 volts for the motor circuit and another of 300 volts for the



Hamburg-Blankenese-Ohlsdorf Railway Improvements—Two Views of the New Single-Phase Motor

by the alternating magnetic field in the armature coils short circuited under the brushes. At the same time these interpoles also give a component field to take up the commutation voltage which occurs in a single-phase just as in a direct-current motor. The electrical qualities of this motor permit larger air gaps than hitherto without affecting the efficiency. The stator winding has six main poles, each of which consists of three coils. There are three commutating poles for the six main poles. The armature

control, lighting, compressor and heating circuits. The main low-tension coil is grounded and also has an automatic cut-out to prevent abnormally high potentials. The motorman's cab contains an oil switch which has one connection on each side to a grounding switch. When the door of the high-tension compartment is opened this switch immediately grounds all apparatus therein through a copper bar which is connected to the metal car framing.

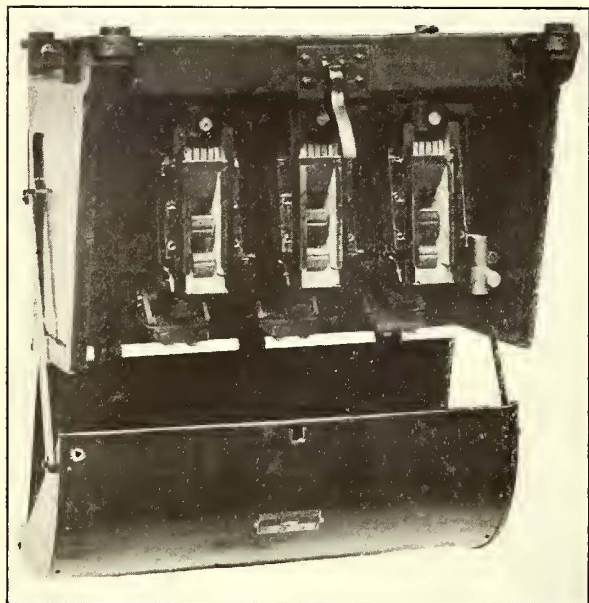
The motor current travels from the main transformer



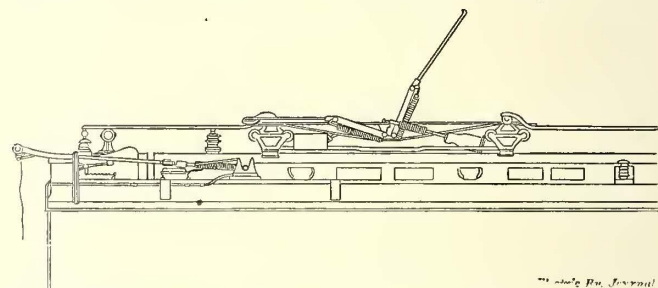
through certain contactors and safety devices to the leads of the stator winding, from whence it proceeds in order to the exciter transformers, to the motor separating switches, and thence to another group of contactors, where the circuits are united before they return to the transformer. A branch of the motor current is conducted to the voltage selector. The exciter current goes from the exciter transformers to the reversers, from which it passes to the exciter

With the 300-volt trolley potential in use, the controller can be operated only on the first and second running points as follows: The low-tension current on leaving the collector passes through a separating switch, cable connection-box, main fuse, voltage changer, contactor and motor separating switches to the exciter transformers. Thence the current goes to the motor connections of the stator windings, motor fuses and through a contactor set for the first and second positions to the voltage changer to ground.

As previously mentioned, the auxiliary circuits are supplied from a separate low-tension coil of the main transformer when the high-tension trolley is in service. One end of this coil is grounded and the other, or 300-volt end, joined to the voltage changer, from which it branches into circuits for compressors, control and light, all of which are fused in a box under the car body. From this fuse box two feeder cables are led to the low-tension panels in the motorman's cabs and then divided in the usual way. The compressor circuit goes from the panel in the rear half of the car over a switch common to both the compressor and



Hamburg-Blankenese-Ohlsdorf Railway Improvements—  
Group of Three Contactors with Cover Down



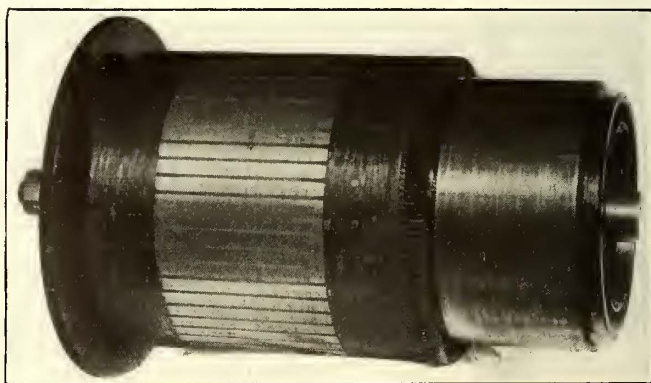
Hamburg-Blankenese-Ohlsdorf Railway Improvements—  
High-Tension and Low-Tension Collector

brushes of the armature and returns in the opposite order. The contactor which takes care of the interpole winding is connected to certain points of both the motor stator and exciter transformer windings. When this contactor is closed that portion of the stator winding which serves for the interpole winding receives part of the voltage of the exciter transformer. The contactors and reversers are operated from the controller.

control circuits, through the compressor fuse and compressor contactor to the motor, from which it is led to grounding busbars on the low-tension panel. The compressor contactor will be discussed later.

The control circuit passes from the two panels mentioned through switches and fuses to the controller. If the controller is in the "off" position the control circuit is broken. The various pieces of apparatus receive control current over two cylinders in the controller. The current which goes through the larger of these cylinders passes

When it is necessary to change from high-tension to low-tension operation the bow collectors are pulled down and the wheel collectors raised by means of a voltage changer. This device embraces two magnet coils, one of which is connected through a fuse to the 300-volt coil of the main transformer and the other is connected through a second fuse to a point which receives current from the low-tension trolley line. The action of the corresponding magnet coil of the voltage changer will keep one collector up whenever the other is down. The voltage changer is connected to the low-tension trolley and the low-tension coil of the main transformer. The latter coil is connected to the contactor circuit only when current is being collected at the higher potential. When the motors are on the low-voltage trolley the contactors are in that circuit.



Hamburg-Blankenese-Ohlsdorf Railway Improvements—Stator and Rotor of New Single-  
Phase Motor

through the contacts of a snap-finger or dead-man's button, the current being interrupted whenever the button springs up. This cylinder also supplies current to the reverser over the contacts of the reverse cylinder whenever the latter is in the full forward or backward position. If the reverse cylinder is in a half-way position the reverser receives control current direct without the intervention of the main



cylinder and dead-man's contacts. Hence the reverser will take the proper position as soon as the reverse cylinder reaches the half-way point. The reverser has two magnet coils, one for forward running and the other for reverse running.

The control current circuits, which run to the connection board in the first half of a motor car, pass through a so-called group release. The function of the latter is to cut out all control devices on one car as soon as a defect occurs in the control circuits.

To keep down the power station peaks the heater contactors are only in circuit when the motors are not receiving current. They are controlled for all cars from a control circuit connection board in the motorman's cab, but a special switch on the main low-tension panel makes it possible to cut out the heater contactors of individual cars. The compressor motors are also supplied through contactors by current which passes over the reverse cylinder of the controller, but not through the contacts used in connection with the dead-man's handle. All compressors are controlled from the motorman's cab.

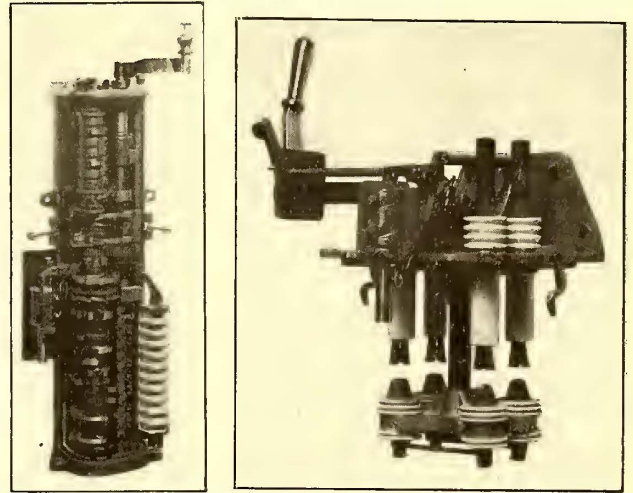
The heater current after leaving the contactor goes to a heater switch under the car body. There are three groups of heaters in each car half, with six fuses in one box. When the third or highest degree of heat is on 43 kw is used per car. The lighting circuit is in two parts—that for regular illumination and that for signals. The lighting wires of each car half are connected up to the respective low-tension panels. After leaving the combined control, lighting and compressor feeder, the lighting circuit passes through the main lighting switch and fuse and thence to the lamps. The signal lamps and motorman's cab lights are controlled through a reversing switch according to the direction of running. The signal circuit then passes through double-pole switches and fuses to the signal lamps. A red-lens oil lamp is carried at each end.

The low-tension coil of the voltage changer feeds an aux-

coil in the controller, through an ammeter, through the release magnet of the oil switch, through the low-tension coil of the voltage changer and to the connection board. The current then passes through the control circuit cable to the other connection board, through the ammeter and special controller coil to ground.

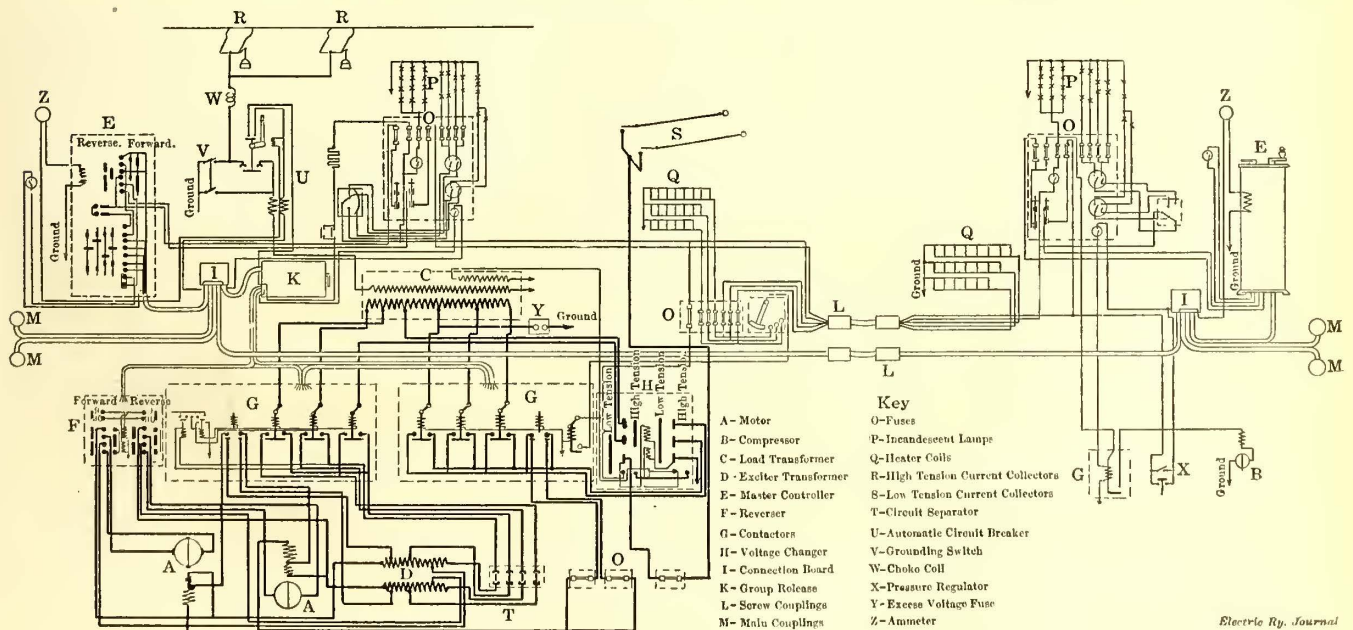
OPERATING STATISTICS

During hours of light traffic the Hamburg-Blankenese-Ohlsdorf line is operated with single cars and at other times with trains of two or three motor cars. The shortest



Hamburg-Blankenese-Ohlsdorf Railway Improvements—Master Controller and Automatic Oil Switch Without Casing

headway is five minutes, which is used on the Altona-Haselbrook division. The average daily run of a car is 279 miles; an average total for a working day's operation is 432 trains, 7812 car-miles and 930,000 seat-miles. The average week-day train consists of 1.56 cars. When these lines were operated by steam there were only 127 trains,



Hamburg-Blankenese-Ohlsdorf Railway Improvements—Part Diagram of Connections for Car, with Two Motors and One Compressor

iliary circuit which will cut out the main oil switch when the current reaches a predetermined maximum and prevent the further operation of the controller until the current has fallen far enough. The course of this current is as follows: From the grounded side of the controller, through

1860 train miles and 930,000 seat-miles per day. It has been found through numerous measurements that the power station must deliver about 42,000 kw-hours for 8000 car-miles when the heaters are in circuit on the first step. In this case the heaters take at least one-sixth of the power,



thus leaving for running and lighting 35,000 kw-hours, or about 4.3 kw-hours per car-mile, equivalent to 36 watt-hours per metric ton-km (57.6 watt-hours per metric ton-mile). As about 4 per cent may be allowed for transmission losses and lighting, the actual amount required for propulsion is 34.5 watt-hours per metric ton-km (55.2 watt-hours per metric ton-mile). On several experimental runs made exactly in accordance with the schedule and correct controller manipulation, the power consumption was as low as 33 watt-hours per metric ton-km (52.8 watt-hours per metric ton-mile). Cars are operated up to 31 m.p.h. The schedule speeds are 19.2 m.p.h. for station intervals averaging 1.03 miles. The line potential conditions are extremely favorable, as the four 125-kw Brown-Boveri steam turbines maintain their voltage very well. Although the motor cars are arranged for 6000-volt line potential, they could run safely at 4500 volts. So far, however, even in the heaviest service the voltage at the collectors has averaged 5500 volts when the potential in the power station was varying from 6300 volts to 6000 volts.

No details are yet available of the comparative maintenance cost with the present electric and former steam operation of this line. It is plain, however, that the cleaner cars and better train service with electricity have produced a great increase in travel. Between May, 1907, and May, 1908, the sale of monthly commutation tickets increased from 10,900 to 15,200, but dropped again as soon as it was necessary to operate part of the line with steam. During the period mentioned the number of single-trip tickets sold per month increased from 640,000 to 1,207,127. The traffic is of suburban character, being particularly heavy between Hamburg and Dammtor during the hours of 7 a. m. to 9 a. m., when many workmen's tickets are presented. The rapid growth of passenger travel has resulted in the order for additional rolling stock, as mentioned earlier in this article.

### GEAR AND PINION GREASE IN DETROIT

The Detroit United Railways is using on its cars a gear and pinion "dope" grease that is giving very satisfactory service. Through its use Sylvester Potter, master mechanic, has reduced the cost of lubricating gears to from 56 to 80 cents per 1000 miles and the cost of lubricating pinions to from 32 to 40 cents per 1000 miles. About 25 lb. of the lubricant is packed in each gear case. The ingredients and the proportions used in mixing this dope are as follows:

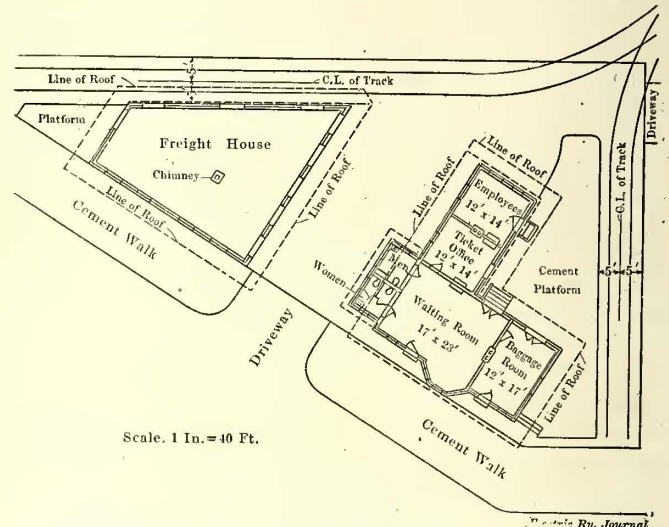
18 per cent	animal fat (tallow and lard).
3 " "	oleic acid.
3 " "	lime.
8 " "	Dixon's best graphite.
48 " "	special paraffin stock.
20 " "	650 fire cylinder stock, extremely viscous.

100

The visit of the American fleet to Melbourne, Australia, last winter was largely responsible for an increase in the gross earnings of the Melbourne Tramway & Omnibus Company for the year ended June 30, 1909, of £22,800. After paying 20 per cent dividends, allowing £45,000 for sinking fund and making liberal appropriations for depreciation and extraordinary renewals, the sum of £30,500 was carried forward to surplus. The company's reserves now amount to £675,000. Unfortunately for the stockholders, in seven years' time their profitable enterprise will revert to the municipality.

### FREIGHT SERVICE OF THE OHIO ELECTRIC RAILWAY

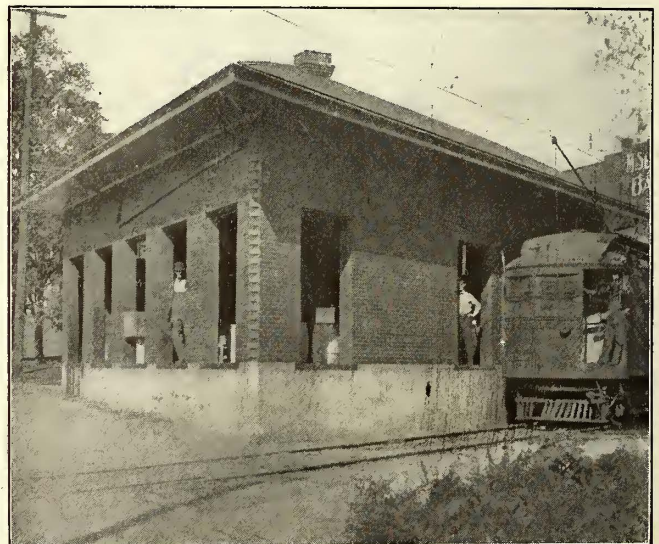
The Ohio Electric Railway has had as large a volume of freight business as it could conveniently handle with the existing equipment, and has recently let contracts for additional rolling stock in order that it may extend this branch of the service. With the present development of the freight business, the revenues from this source amount to about 10



Ohio Electric Railway—Plan of Toledo Freight and Passenger Terminal

per cent of the total gross revenue from operation, while the other 90 per cent is derived from passenger and mail service.

By a change that became effective on June 1, 1909, this company, which had previously conducted an express service with wagon delivery through the Southern Ohio Express Company, transferred this business to the United States Express Company under a practically perpetual contract. The decision to dispose of the express business was



Ohio Electric Railway—Exterior of Freight House at Toledo

reached after an experiment lasting two years, which demonstrated that the hauls were so short and the revenue per package so low in consequence that the expense of the wagon delivery and pick-up service absorbed too much of the revenue. Practically no long-haul express business was secured. The business now handled directly by the company, apart from its passenger and mail service, is there-

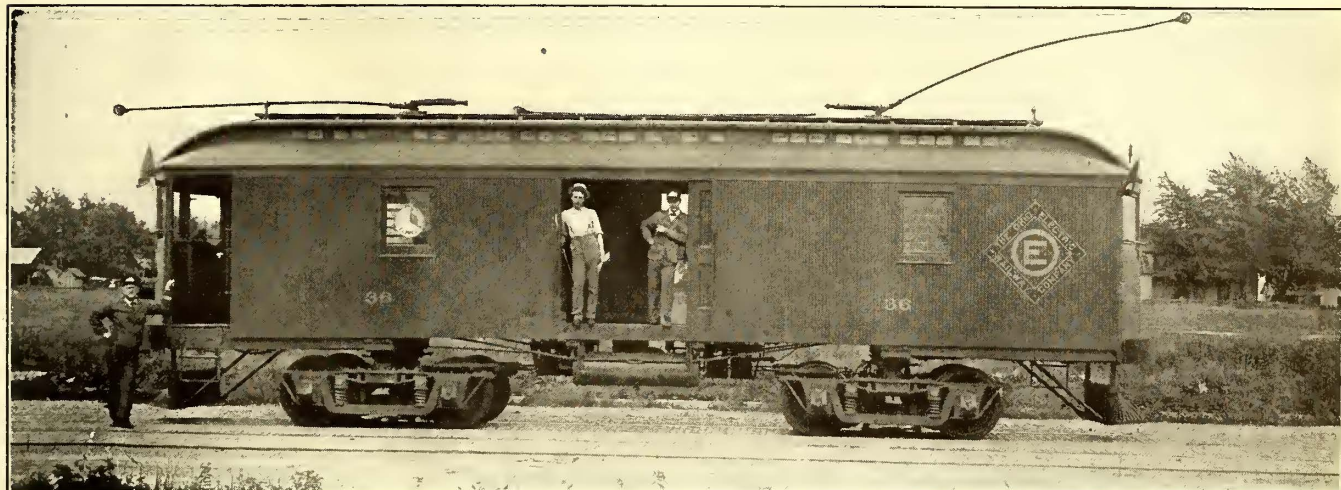


fore divided between regular freight service and what is termed merchants' dispatch freight service. The rates for regular freight service are as nearly as possible identical with those charged by the steam lines reaching the same territory. Merchants' dispatch freight, however, is handled on passenger cars only between points on the various divisions of the lines of the company, and the rates charged are a little higher than those for freight handled on the

are occasionally offered. The illustration on page 904 shows the local tariff applying between points on the Springfield-Lima, Lima-Toledo and Lima-Fort Wayne divisions for dispatch freight handled on passenger cars.

Following are the conditions under which merchants' dispatch freight is handled:

This company will accept for transportation on first regularly scheduled passenger car, which is equipped with bag-



Ohio Electric Railway—Typical Freight Car

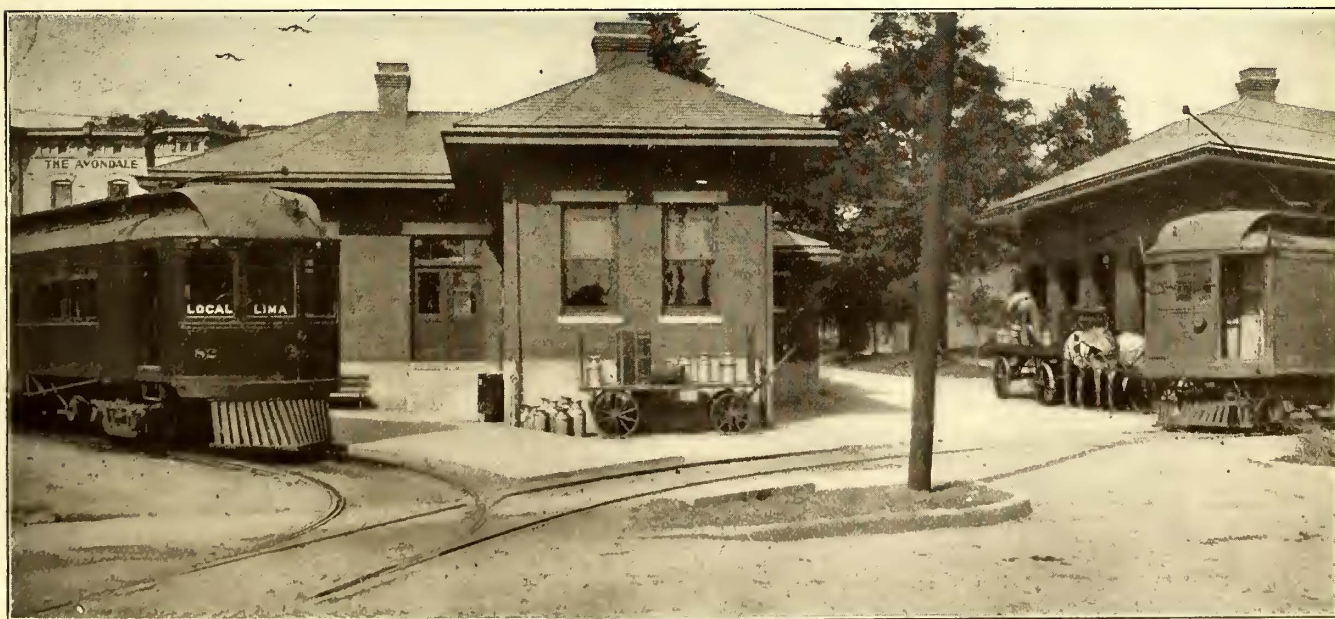
regular freight cars. Only a small quantity of material can be transported in this way at any one time, but the company takes the position that it is an accommodation to its patrons' to offer them for the transportation of packages the service afforded by the frequent headway of the passenger trains.

There is no conflict between the merchants' dispatch freight service and the express business, as the company

gage compartment, after receipt of property, any merchandise between points to which rates are published herein, on the following conditions:

- No single package to weigh to exceed 150 lb.
- No single package to exceed 3 ft. 6 in. in length.
- No single package to exceed 2 ft. 6 in. in width.
- No single package to exceed 2 ft. 4 in. in height.

Minimum charge—In no case will the charge for a single consignment be less than 25 cents.



Ohio Electric Railway—Layout of Toledo Passenger and Freight Houses

undertakes no delivery or collection of articles. The merchants' dispatch freight service has been in effect on the Ohio Electric Railway with satisfactory results for about two years. The commodities offered for transportation in this way consist largely of ice cream, fruits and bread, although all conceivable articles of merchandise from a pair of kid gloves to a talking machine or lawn mower

On the eight electric divisions of the system two freight trains are operated six days in the week, one in each direction. All the freight equipment resembles the passenger equipment. A motorman and a conductor comprise the crew on every freight train. At some places but one car is used, and at others the amount of business justifies one motor and one or more trail cars. The business is largely package







## TRAMWAY CONDITIONS IN ENGLAND

In his annual address, delivered at the September conference of the Municipal Tramways Association, President A. L. C. Fell, chief officer of the London County Council Tramways, presented some interesting statistics of street railway operation in Great Britain at the present time. He said that there were 305 street railway systems in the United Kingdom, 177 of which were owned and operated by municipalities and 128 by stock companies or private individuals. The tramways consisted of 1522 miles of double-track lines and 941 miles of single-track lines. This represented an increase of 69 miles, measured as single track, over the preceding year. The total capital invested was £68,199,918, compared with £64,092,091 in the preceding year. Other increases were as follows: Passengers carried, 2,625,532,895, against 2,454,807,487; gross receipts, £12,439,625, against £11,849,175; operating expenses, £7,792,663, against £7,363,762. Mr. Fell stated that these returns clearly indicated that the period of rapid construction of electric street railways was over, and that the increases shown were due chiefly to the gradual development of existing systems and the abolition of horse, cable and steam tramways. For some time now no important projects had been brought before Parliament for its sanction.

Mr. Fell said that a popular fallacy existed that the construction of a tramway line increased the traffic congestion in streets, although experience had clearly shown that congestion was relieved by the operation of electric railways. One reason was that the vehicular traffic was formed into straight lines, the slow traffic keeping more to one side and the fast traffic following the tramway. Another reason was that a tram car took up less space in the street per passenger carried than any other type of public conveyance. One double-deck electric car, seating 78 passengers, was 33 ft. 10 in. long, whereas a motor omnibus 23 ft. long carried only 16 passengers under cover. Double-deck omnibuses were not permitted by the London police authorities.

Mr. Fell presented some interesting statistics of traffic on some of the large street railway companies in the United Kingdom which clearly indicated that the majority of passengers travel considerably less than two miles. The following particulars bore out this statement: Glasgow Corporation Tramways carried 221,744,569 passengers. Of these 28.04 per cent paid  $\frac{1}{2}$ d. and 59.65 per cent paid 1d.; Liverpool Corporation Tramways carried 121,927,883 passengers, of whom 89.679 per cent paid 1d.; London County Council Tramways carried 412,913,841 passengers, of whom 24.22 per cent paid  $\frac{1}{2}$ d. and 48.04 per cent paid 1d.; London United Tramways Company carried 59,255,919 passengers, of whom 73.37 per cent paid 1d.; Manchester Corporation Tramways carried 155,011,844 passengers, of whom 7.35 per cent paid  $\frac{1}{2}$ d. and 67.04 per cent paid 1d. The total number of passengers carried on the five lines mentioned was 970,854,096. Of these 760,942,125 paid  $\frac{1}{2}$ d. and 1d. fares. This represented 78.38 per cent of the total fares paid.

The average distance which the passengers paying  $\frac{1}{2}$ d. fares, therefore, could have traveled was 1152 yd., and the average distance which the passengers paying 1d. traveled was 1 mile, 1747 yd. As a matter of fact, although the  $\frac{1}{2}$ d. passengers took advantage of the full stage, the average penny passenger did not do so. As these figures proved that the tramways in large cities were used chiefly by short-distance passengers, Mr. Fell thought that the interurban and steam railways should not attempt to handle

purely local traffic. He thought that much might be done to increase traffic by selling through tickets between all railways and tramways, and suggested that the association take the initiative and endeavor to arrange a conference with representatives of some of the railway companies.

Mr. Fell thought that all municipalities should insist on their officers inspecting other systems, as it was impossible to keep up with the times unless this practice was followed. An attempt had been made during recent years to have the Municipal Tramways Association get into closer touch with the International Street Railway Association, but, owing to the fact that in the latter organization the dues were based on the capital outlay of the various properties represented, the subscription of the British body under this plan would be out of proportion to the benefits derived. The president therefore suggested that no further action be taken in this direction, but that the tramway boards be recommended to occasionally send their officers and representatives abroad to investigate street railway operation and report to their employers and to the association. He also suggested that the association should bear the cost of circulating among its members the data obtained in this way.

Mr. Fell referred to the necessity for standardization, not only in the matter of track, cars and equipment, but also in the form of annual reports of the various properties. A standard form of accounts had been prepared some time ago by the Municipal Tramways Association, but this had not been strictly adhered to, and therefore the comparative statistics quoted were not formulated on the same basis. He thought the car-mile was most unsatisfactory as a unit for making comparisons. It was very misleading to use it in comparing systems with different types of cars, average speeds and number of stops. What was really wanted was the cost per passenger-mile or per seat-mile. In his opinion, the term "seat-mile" should be used in all comparative figures. It was interesting to note in this connection that the Board of Trade and the police authorities had recently agreed to an experimental operation of trailers on one route in London. Mr. Fell was certain that the advantages of trailer operation would be speedily recognized.

The speaker described the conciliation boards formed by the London County Council Tramways to handle all questions relating to rates of pay and hours of labor. The Board of Trade in the first instance issued ballots to all employees except those holding official positions and those under 21 years of age, to ascertain if they were in favor of conciliation boards. The result of the vote was a large majority in favor of the proposal. The next step was to ask employees in each department to nominate representatives for election to department boards. It was arranged that each nominee representing motormen and conductors should be proposed by at least 20 employees entitled to vote, and nominees representing other departments by six voters. Four separate boards were formed to deal with the traffic, rolling stock, electrical and permanent way and building departments. These boards, it was hoped, would adjust differences between the corporation and the men in a friendly and equitable manner by bringing the broad-minded views of the elected representatives of the employees to bear on the subject. Mr. Fell's experience was that much more could be done by a round-table discussion in this manner than by the sudden presentation of lists of grievances a few days before a holiday or on the eve of a municipal election. Under the new plan if an agreement cannot be reached, the matter will be settled by an inde-



pendent arbitrator. If the London experiment was satisfactory, he hoped that it would be extended to all municipal tramways, and that it would be possible in time for the various conciliation boards to co-operate. Personally, he thought that these boards would do much to smooth over difficulties in regard to rates of pay and hours of labor, but matters of discipline should not be settled through such a channel. In this connection he was glad to note that recreation rooms for employees were receiving very strong support on the part of municipal authorities. He felt certain that this attention to the comfort of employees had done more than anything else to improve the good feeling which existed between the municipalities and their men.

In conclusion, Mr. Fell spoke about steel wheels. He recalled that in 1902 he had written a paper on that subject and strongly urged the adoption of wheels of that type. At that time his suggestion had met with much opposition, but there had been a great change in opinion and practice since. From replies received from 53 municipal tramways it appeared that of 35,600 wheels in use, 33,064, or 93 per cent, had steel tires and the rest were of chilled iron. He thought that the steel makers of England were to be congratulated on the results, especially as they are now able to produce tires having a life which exceeded the most sanguine anticipations of seven years ago.

**CENTRAL ELECTRIC TRAFFIC ASSOCIATION JOINT PASSENGER TARIFF**

Announcement of the publication of joint passenger tariff No. 3 of the Central Electric Traffic Association was made in the ELECTRIC RAILWAY JOURNAL last week, page 880. The general rules and regulations contained in the tariff for the guidance of agents are abstracted below. The rates quoted in the tariff apply to and from the following 32 headline points in Indiana, Ohio and Kentucky: Bluffton, Ind.; Cincinnati, Ohio; Cleveland, Ohio; Columbus, Ohio; Crawfordsville, Ind.; Dayton, Ohio; Findlay, Ohio; Fort Wayne, Ind.; Fostoria, Ohio; Goshen, Ind.; Indianapolis, Ind.; Kendallville, Ind.; Kokomo, Ind.; Lafayette, Ind.; Lima, Ohio; Logansport, Ind.; Louisville, Ky.; Marion, Ind.; Michigan City, Ind.; Muncie, Ind.; Norwalk, Ohio; Peru, Ind.; Piqua, Ohio; Richmond, Ind.; Sandusky, Ohio; South Bend, Ind.; Springfield, Ohio; Terre Haute, Ind.; Toledo, Ohio; Union City, Ind.; Wabash, Ind.; Zanesville, Ohio.

**GENERAL RULES AND REGULATIONS**

1. Routes via Which Rates Apply.—Rates quoted herein apply only via authorized routes as shown opposite each station.
2. Manner of Constructing Through Rates When Not Quoted in this Tariff.—Where through routes from your station are not shown, take rate from first junction or headline point nearest to your station from which rates are named, and add your local rate to the rate from that junction, either one way or round trip, as desired.  
(Example—In finding the rate from Chambersburg, Ohio, to Greencastle, Ind. (neither of which is a headline point), refer to the nearest junction or headline point, which would be Dayton. Under this headline point you will find rate quoted to Greencastle, as well as a basing rate to Chambersburg. Add these two rates together and you will have the through rate.)
3. Explanation of Reference Marks.—Rates marked thus (\*) are for basing purposes only, and may be used as part of a combination in constructing a through rate as shown under rule 2, but *not* for selling purposes.  
Rates marked thus (†) are *intrastate* rates only, and must not be used by combination or otherwise on interstate traffic. They may be used by combination in constructing through rates that are wholly *intrastate*.

Rates marked thus (†) do not become effective until Jan. 1, 1910, and tickets must not be sold to points so marked, or via routes in connection therewith, before that time.

4. Selection of Route.—After finding rate to destination, and where two or more routes are shown, route ticket according to line requested by passenger. In the absence of any specific routing selected by passenger, agent will route ticket according to best train service and connections.
5. Number of Coupons to be Used.—Where skeleton form of ticket is used write one coupon for each line over which the ticket is issued and show routing plainly on auditor's stub and on each coupon.
6. Apply in Either Direction.—The rates shown herein apply in either direction over lines of participating carriers.
7. Transfer at Junctions.—In ticketing via junction or headline points where transfer service is necessary between

R. C. O. No. 4. I. R. C. No. 4. I. C. C. No. 4.

Only one Supplement to this Tariff may be in effect at any time.

**Central Electric Traffic Association**

**JOINT PASSENGER TARIFF No. 3**

Of One Way and Round Trip

**Selling and Basing Fares**

---

APPLYING BETWEEN

ALL STATIONS ON THE ROADS PARTICIPATING IN THIS TARIFF (AS SHOWN ON PAGE 3), LOCATED IN ILLINOIS, INDIANA, KENTUCKY, MICHIGAN AND OHIO.

---

Issued October 14, 1909.

Effective,	}	Interstate,	November 14, 1909.
Except as		Intrastate (In Indiana),	October 24, 1909.
Otherwise		Intrastate (In Ohio),	October 24, 1909.
Noted.			

---

"The fares to and from points not named in this Tariff, but which are directly intermediate to the points which are named, will be the same as the fares to and from the next more distant stations named."

---

The fares, rules and regulations herein are compiled and published by me as agent of each of the initial carriers shown on page 2 of this tariff, in accordance with powers of attorney (numbers of which are shown opposite each), on file with the Interstate Commerce Commission.  
A. L. NEEREAMER, Agent,  
Room 306 Traction Terminal Building,  
INDIANAPOLIS, INDIANA

**Reproduction of Front Cover of New Central Electric Traffic Association Tariff Sheet**

- terminals, agents will notify passengers that they must make their own arrangements for such transfer, unless the ticket bears a transfer coupon.
8. Apply from Ticket Office Points Only.—The rates shown herein apply only from points where regular ticket offices are maintained.
  9. No Stop-overs.—No stop-overs will be allowed on through interline tickets.
  10. Limit on Tickets.—The limit on one-way tickets must not exceed three (3) days, including date of sale, and the limit on round-trip tickets must not exceed thirty (30) days, including date of sale.
  11. No Excess on Limited Trains.—Through interline tickets will be accepted for passage on all limited trains without excess fare.  
Exception: That on the line of the Indianapolis, Columbus & Southern Traction Company (between Indianapolis, Ind., and Seymour, Ind.), the excess charges on limited trains will be 10 cents per passenger for any distance, to be collected by the conductor.



12. Definition of Limited Train.—A limited train is one that does not make country or crossroad stops, but only makes city or town stops.

13. Rates for Children.—Children five years of age or under, accompanied by an adult, free; over five years of age and under 12 years, half-fare, adding sufficient when necessary to make child's rate end in 0 or 5; 12 years old or over, full fare. The round-trip child's fare to be one-way adult fare, and not one-half of the adult's round-trip fare. Coupons and contract of half-fare tickets must be plainly marked or stamped "Half Fare," one ticket for each child. In no case will one whole ticket be issued for two children.

14. Transportation of Baggage.—Baggage may be checked over the lines issuing this tariff in accordance with the rules and regulations made in Joint & Local Baggage Tariff No. 1, I. C. C. No. 2, I. R. C. No. 2, O. R. C. No. 2, effective Aug. 2, 1909.

The names of the various carriers party to this tariff are as follows:

Chicago, Lake Shore & South Bend Railway.  
 Chicago, South Bend & Northern Indiana Railway.  
 Cleveland, Painesville & Eastern Railroad.  
 Columbus, Delaware & Marion Railway.  
 Columbus, Marion & Bucyrus Railroad.  
 Dayton & Troy Electric Railway.  
 Fort Wayne & Springfield Railway.  
 Fort Wayne & Wabash Valley Traction Company.  
 Indianapolis & Cincinnati Traction Company.  
 Indianapolis & Louisville Traction Company.  
 Indianapolis, Columbus & Southern Traction Company.  
 Indianapolis, Crawfordsville & Western Traction Company.  
 Indiana Union Traction Company.  
 Kokomo, Marion & Western Traction Company.  
 Lake Erie, Bowling Green & Napoleon Railway.  
 Lake Shore Electric Railway.  
 Louisville & Northern Railway & Lighting Company.  
 Marion, Bluffton & Eastern Traction Company.  
 Ohio Electric Railway.  
 Sandusky, Norwalk & Mansfield Electric Railway.  
 Southeastern Ohio Railway, Light & Power Company.  
 Springfield, Troy & Piqua Railway.  
 Terre Haute, Indianapolis & Eastern Traction Company.  
 Toledo & Chicago Interurban Railway.  
 Toledo & Indiana Railway.  
 Toledo, Fostoria & Findlay Railway.  
 Toledo, Port Clinton & Lakeside Railway.  
 Toledo Urban & Interurban Railway.  
 Western Ohio Railway.  
 Winona Interurban Railway.

### A MONOGRAPH ON LONDON TRAFFIC CONDITIONS

The *Zeitschrift für Kleinbahnen* has reprinted in pamphlet form a study of London traffic by G. Kemmann, who is a retired German Government councillor. Mr. Kemmann has not only studied city traffic in European cities, but has also made personal investigations in the United States. The July 3, 1909, issue of the ELECTRIC RAILWAY JOURNAL contained an article by Mr. Kemmann, entitled "Action Necessary to Assure a Reasonable Return on the Investment." In the article on London the author bases many of his observations on the researches of the Royal Commission of London traffic and of the British Board of Trade.

He discusses, first, the political and territorial divisions of London, following this with a description of the different railway and omnibus lines, the districts served by each and the degree of their financial success or failure. The author concludes that the relief of the present difficulties in transportation and finance must be sought partly in the creation of a central traffic commission and in the closer working together of the different transportation purveyors of London.

### SPECIAL EXCURSION CARS IN EASTERN PENNSYLVANIA

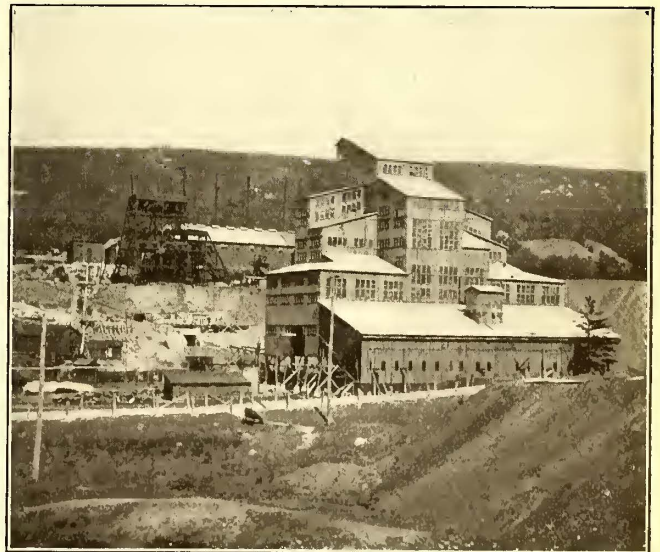
Last fall the Eastern Pennsylvania Railways Company of Pottsville, Pa., instituted a weekly excursion between Pottsville and Mauch Chunk, a distance of 31 miles, and on these trips used 15-bench cars with large observation platforms. Only the capacity of the car was sold, i. e., 75 people. These trips proved themselves to be so popular



Eastern Pennsylvania Railways—Entrance to Mauch Chunk

that the service was started early this summer and has been continued each week. The demand for tickets on each excursion has exceeded the supply each week, and this has necessitated running these trips twice a week.

This type of open "sight-seeing car" affords the passengers full opportunity to view the scenery and sights along



Eastern Pennsylvania Railways—Coal Breaker between Pottsville and Mauch Chunk

the trolley line; taking them through the Schuylkill Valley into Tamaqua, a progressive mining city of 12,000, from there to Mauch Chunk, passing through the Panther Valley and crossing the Nesquehoning Mountains at an elevation of about 1500 ft. above tide-water. The section of the country traveled by this "sight-seeing car" shows a striking







## TELEPHONE EQUIPMENT OF THE SYRACUSE, LAKE SHORE & NORTHERN

BY E. M. WHARFF, ELECTRICAL ENGINEER, SYRACUSE, LAKE SHORE & NORTHERN AND SYRACUSE & SOUTH BAY RAILROADS

The telephone dispatching systems of the Syracuse, Lake Shore & Northern and the Syracuse & South Bay electric railroads are operated from one office, located in Syracuse, N. Y. The telephone circuits on each road consist of two circuits of No. 10 bare copper wire along the private right-of-way connected to a 10-pair lead-covered suspended cable through the town limits of Baldwinsville, Phoenix and Fulton. One circuit, 30 miles long, connects the towns of Baldwinsville, Phoenix and Fulton with Syracuse; the other connects Syracuse and South Bay, and is 15 miles long. For connections in the city of Syracuse four pairs of wires are leased from the Bell Telephone Company, thus providing connection to the private branch switchboard located in the railroad company's ticket office at Syracuse. The only duties of the operator, who attends this switchboard at all times during the day and night, are to answer tele-

phones or car houses at any desired point. Every fifth pole along the line is numbered, and the poles are set about 90 ft. apart, so that an employee, or one of the train crew, knows exactly the location of the nearest telephone jack box, and has in no case to walk more than 1100 ft. to reach one.

On that portion of the Syracuse, Lake Shore & Northern where the catenary type of overhead construction is used the supporting bridges are located 300 ft. apart, except on the curves. A jack box on each telephone circuit is installed on each tower whose number ends in zero or is a multiple of 10.

The illustration in Fig. 1 shows a portable set connected to the jack box at one of these bridges. Allowing for the shorter spacing of the bridges on curves, the jack boxes are spaced approximately 2500 ft. apart, so that the maximum distance from any point to a jack box is not more than 1250 ft.

Each passenger, work and express car which is equipped with motors has as a part of its regular equipment a Western Electric portable car telephone set, securely strapped



Fig. 1—Portable Telephone Set Connected to Jack Box

phone calls and give connections between the two outlying lines, the offices, and any intermediate points on either line. The telephones on the outlying lines are located at five substations, two car houses, five ticket offices and two important crossroads waiting stations. Western Electric magneto wall-sets or desk-sets are used in connection with a magneto generator and ringer. Each of these instruments is connected to the middle point of a double-throw switch. This switch is normally closed on one circuit, and in order to make the operations more positive, a ringer equipment, with loud-ringing gong, is permanently bridged across the other circuit, from which the telephone is normally closed.

In order to balance the circuits and facilitate the operation and service, the substations are connected on one circuit and the car houses and ticket offices on the other. With this arrangement all stations are equally accessible on both lines.

Along the right-of-way, where the road has pole line construction, there is installed at every twenty-fifth pole a permanent jack box on each telephone circuit, so that at every pole bearing a number which is a multiple of 25 will be found a box at which a portable telephone can be connected to either of the two telephone circuits. From these jack boxes communication can be established with the of-



Fig. 2—Portable Telephone Set as Carried on Car

into its holder, which is fastened to the car in a position as shown in Fig. 2, in full view of passengers and trainmen. These portable telephone sets are light in weight, substantial in construction, of compact design, with the exterior surfaces flush, and all parts are readily accessible. The instrument weighs 16 lb., is 11½ in. high by 10½ in. wide by 4¾ in. deep. The case is of hard wood, finished to match the woodwork of the car, and conveniently arranged for accessibility to the enclosed parts. The front cover is divided, one-half being hinged along the upper edge so as to form a flap, with the lower half held in place by screws. The interior of the case is divided into two horizontal compartments. The lower half contains a five-bar generator, induction coil, two cells of dry battery and a 2500-ohm ringer. The upper half contains a hand telephone set, with cord, held in place by two spring clips, and also the generator crank handle and a cord and line plug for making connections at the pole jacks, which are connected to the telephone line wires. The hinges on the flap, or lid, are provided with springs which tend to keep the lid in the closed position, and the lower edge of the flap is beveled to exclude rain, snow, etc., when the instrument is in use in the open air.

When a connection with the stations is desired, the set is taken from the car and connected to the line by insert-



ing the plug into a pole jack. The station is then called by means of the small magnetic generator. The transmitter and receiver are mounted together on a yoke, so as to be operated conveniently when held in one hand. In the yoke of the hand set is a push button so located that it can be depressed with the thumb. This operation closes the battery circuit through the transmitter. When the button is released the battery circuit is opened, which prevents the introduction of extraneous noises through the transmitter and economizes the battery consumption.

These portable telephones are used only in emergencies, and are not used in any way for regular dispatching. For this reason it might be considered that they are something of a luxury, which could be omitted. They are extremely valuable, however, in emergencies. There have been no interruptions, confusion of schedules or blockades of traffic of any importance since the installation of this system. The portable telephones enable the car crews to report immediately trouble with their car or with the overhead line. This saves much time, because instructions can be obtained from the master mechanic or line foreman, as the case may be, and the repair crew can start at once for the scene of action with the least possible delay. There have been numerous instances where a broken wire might have tied up a section of the line for many hours, but with the present equipment the car crews reported the cause and the location in a few minutes, and saved a long inspection trip by a line gang in the wrong direction. Suggestions from the master mechanic received over the telephone have enabled a motorman to put his car in condition and continue his trip, whereas his car might have stood still until reached by some other car, or until one of the crew had walked a few miles to the nearest station and reported the trouble. While these telephones have no regular prescribed uses, they are considered to be of such importance that it is constantly impressed upon the train crews that they must use the telephones when there is the least doubt as to what to do and how to do it.

### CONFERENCE ON RULES FOR OHIO INTERURBAN RAILWAYS

Several weeks ago the Ohio Railroad Commission sent out a circular letter to all electric interurban railroads in the State, requesting a conference to formulate a basic code of operating rules. A committee composed of Frank A. Davis, president and general manager, Scioto Valley Traction Company, Columbus; F. W. Coen, vice-president and general manager, Lake Shore Electric Railway, Sandusky; C. M. Paxton, general manager, Dayton & Troy Electric Railway, Dayton; Charles Currie, general manager, Northern Ohio Traction & Light Company, Akron; C. F. Franklin, president and general manager, Toledo & Western Railroad, and B. J. Jones, district manager, Ohio Electric Railway, Springfield, met with the railroad commissioners in Columbus, Ohio, on Oct. 13. The new standard code of interurban rules, adopted by the Transportation & Traffic Association at Denver, was discussed in an informal way, but as none of those present at the conference had had an opportunity of studying the new rules closely, no action was taken. Both the committee and the commission were agreed as to the need of a standard basic code of rules, and both believed that, with possibly a few minor modifications, the new standard code of the Transportation & Traffic Association could be used in Ohio. The commission has called another conference for Oct. 27, at which time the rules will be gone over in detail and necessary changes made.

It was brought out at the conference that some roads operating in Ohio have no code of rules, and on other roads which have a code no steps are taken to ascertain if the employees are thoroughly familiar with the rules in force. In this connection the Ohio Electric Railway has recently adopted a plan for schools of instruction for its trainmen. Meetings of motormen and conductors are to be held on Sundays at division headquarters, and the men will be instructed in the rules of operation and the causes and prevention of accidents. A class for night crews will be conducted in the afternoon and the day crews will meet at night. The classes at Columbus are in charge of F. J. Moore, superintendent.

### SUGGESTIONS INVITED REGARDING FORM OF NEW YORK ANNUAL REPORT

A letter asking for discussions of the forms of annual reports has been issued by W. J. Meyers, statistician of the New York Public Service Commission, Second District. Mr Meyers says:

At the present time it is one of the duties of the Public Service Commissions of this State to keep themselves informed concerning the affairs and conditions of the various public service corporations subject to the oversight of the Commissions. One of the means provided by the statute for such information is embodied in a system of annual reports required of the several corporations. Great latitude is allowed by the statute concerning the form which such annual reports shall take, the statutory provisions concerning them placing their form largely within the discretion of the Commissions.

In connection with the annual reports of the Commissions to the Legislature of the State, the statute requires the publication of "abstracts of the reports to such commission of common carriers, railroad corporations and street railroad corporations, and gas and electrical corporations," and requires such abstracts to be distributed to "railroad, street railroad, gas and electrical corporations, and other persons interested therein."

Owing to the large number of corporations placed within the supervision of the Public Service Commission for the Second District, the critical examination of the annual reports of the said corporations and the compilation therefrom of matters of sufficient general interest to warrant publication is a work of considerable magnitude and a correspondingly great expense. In order that such expense may not be an unwarranted burden upon the public funds, the information published should be such as satisfies some genuine public need, and this letter is sent to you in the hope that you may help to determine what are the public needs to be satisfied by such publication and what is the character of the matters to be compiled and published in order to meet such needs.

The various persons interested in the operations of public service corporations may conveniently be grouped into (a) consumers, (b) managers, (c) investors, and (d) employees. Each of these classes is doubtless interested from a separate standpoint in the matters under consideration, and we are desirous of affording in our statistical publications such information as is necessary to meet the real wants of these various classes so far as it is significant and can be provided without unwarranted expense.

In our endeavor to shape the requirements of our annual reports so as to yield truly significant information and to compile therefrom for publication matters of real public interest, it will be of material assistance to us if we may have from you in the course of the next thirty days a discussion of the general question of what information shall be gathered and published concerning the affairs, conditions, and operations of public service corporations, together with a statement of the standpoints from which you approach the question and the significance which in your opinion is to be attached to the various matters which you suggest as worthy of publication. *The more specific and concrete your suggestions the more valuable will they be.*



## COMMUNICATION

### PREPAYMENT CARS IN LOUISVILLE

LOUISVILLE RAILROAD COMPANY  
LOUISVILLE, KY., Oct. 12, 1909.

To the Editors:

The adoption by a street railway company of any innovation either in its methods or its equipment is certain to bring forth from the public some unfavorable comments. The Louisville Railway Company has recently equipped five of its lines with pay-on-platform cars. Objections were raised in some quarters that the use of fare boxes and the collection of fares before the passengers entered the car would cause congestion on the rear platform, retard the running time of the cars and in other ways promote discomfort and dissatisfaction among the patrons of the railway company. One or two of the lines equipped carried the heaviest traffic of any of the lines in the city, and the objections raised have not materialized. Close observation of the operation of these cars after a period of some months shows that the passengers have adapted themselves to the prepayment method of fare collection so that there is practically no delay or any congestion on the platform. Passengers quickly learned to have their change ready before boarding the cars and now drop their nickels in the fare box without any delay. The conductor never leaves his position on the rear platform and is therefore able to protect passengers from injury and give assistance to those who need it. From our experience so far, we believe that an alert conductor will save the railway company at least 75 per cent of the boarding and alighting accidents which occur with the old type of cars. If this percentage can be saved, in the accident damage account, the fact that the company receives a nickel from every passenger is comparatively an insignificant advantage.

We have found that there are only two classes of persons who object to the plan of paying their fare before entering the cars. One of these is the man who rides on the cars only during rush hours, when the travel is so heavy that he can evade the conductor and ride free. With the fare box in use, this man's petty grafting is at an end. The other class is the intoxicated man who is always contrary and makes himself a nuisance to the traveling public. This man as a rule stands in the passage way and wants to argue with the conductor as to whether or not he shall pay his fare.

From our experience with the cars, we should say that 99 out of every 100 passengers are pleased with the system and are trying in every way to make it a success. The cars are started more promptly than ever before, because the conductor is always in a position to give the signal when the steps are clear.

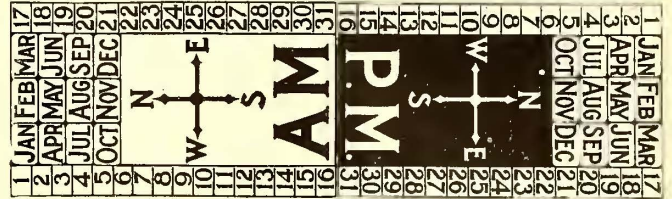
J. T. FUNK,

General Superintendent.

Two accidents that have happened recently, one in Great Britain and the other in India, point to a danger to which few have attached much importance. This is the possibility of sparks from the trolley wire and wheel igniting gas or other inflammable elements in the surrounding atmosphere. In England a spark from the overhead trolley ignited some gas which was escaping from a window in a neighboring house, and an explosion took place. In Calcutta a native store, where methylated spirits and other inflammables were kept in bottles and casks, was set on fire owing to the fact that an inflammable atmosphere was created by the fumes, and this was ignited by a spark from the trolley wheel of a passing car.

## A NEW FORM OF HAT CHECK

The American Bank Note Company, New York, has designed and copyrighted the new form of hat check shown in the accompanying engraving. The check is printed to indicate A. M. on one half and P. M. on the other half, and on both halves are printed the days of the month, the names of the months and a cross indicating the four points of the compass. By making three punches in either half

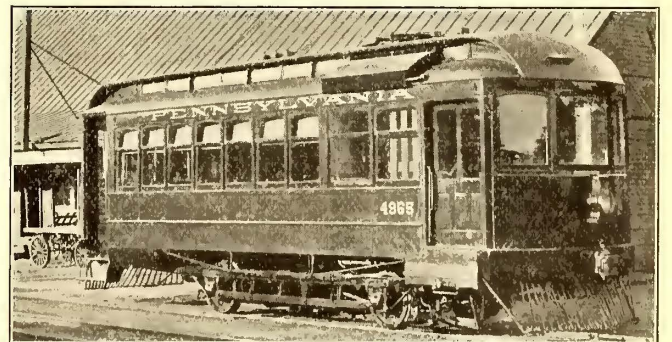


A New Hat Check

of the check the conductor can indicate the day, month, direction of travel and whether the ride was begun in morning or afternoon. These checks are printed on a good grade of white paper stock in seven distinctive colors so that a different color can be used for each day of the week. By occasionally changing the colors used for different days it is claimed that absolute protection against fraudulent use of the checks can be obtained.

## GASOLINE MOTOR CAR FOR THE PENNSYLVANIA RAILROAD

The Pennsylvania Railroad recently purchased from Fairbanks, Morse & Company, Chicago, Ill., the gasoline motor car illustrated, for service on its Smyrna branch, between Clayton and Smyrna, Del. This car moved to its destination under its own power from the factory in Three Rivers, Mich., starting on Oct. 7 and reaching Wilmington, Del., on Oct. 10. The total distance was 780 miles, the actual running time 28 hours, and the average speed 27.5 m.p.h. The car is of the straight gasoline type, equipped with a four-cylinder, water-cooled engine rated at 60 hp at 600 r.p.m. The double ignition system is used, one set of spark plugs being connected with a magneto and the other with a storage battery. The engine is hung on



Gasoline Motor Car for Pennsylvania Railroad

the truck frame, entirely independent of the car body. As the latter rests on elliptical springs on the trucks, the vibration of the engine is not communicated to the body. The transmission is of the gear type, with three speeds in either direction. The control includes one small hand wheel to govern all the speed changes, and is so arranged that the clutch is automatically thrown out as the change is made from one speed to another. The drive is by roller chains



connected to the axle. The body of the car is divided into two compartments. The forward compartment contains the power equipment and is arranged also for handling light baggage and express; the rest of the car contains reversible seats for about 30 passengers. A special feature of the Pennsylvania car is the additional rear control, to permit the motorman to operate from either end. The air brakes installed apply brake shoes on all four wheels.

This car is the fifth of its kind built by Fairbanks, Morse & Company, and is known as No. 24. Another type, No. 19, is a 20-passenger car, built either open or enclosed. The following is the September, 1909, operating record of one of two No. 24 cars run by the St. Joseph Valley Traction Company, Elkhart, Ind.:

Miles .....	2,867
Passengers carried .....	4,600
Cost of Operation:	
Wages of crew .....	\$113.65
Material .....	9.09
Labor .....	21.80
Gasoline, 558 gal. ....	58.60
Oil and waste .....	25.84
Supplies .....	8.33
	\$237.31
Cost of operation per car-mile.....	\$0.083

The first car of this type was put in service on the St. Joseph Valley line in the latter part of May, 1909. During June, July, August and September it ran 8524 miles.

### PACIFIC COAST TRAIN PARTY AT SEATTLE AND TACOMA

The party of delegates to the Denver convention of the American Street & Interurban Railway Association who, with President Shaw, are making a tour of the Far Western cities on the special train chartered by the Massachusetts Street Railway Association, left Butte, Mont., on Oct. 11. The train made its first stop of a few hours at Calgary, Alta. Here the party was met by Thomas H. McCauley, manager of the Calgary municipal street railway system, and although the time was short and the hour late, most of the tourists improved the opportunity of inspecting the handsome cars and the new track in Calgary. The entire system, according to Mr. McCauley, has been built during the past six months.

Oct. 13 and 14 were spent in crossing the Canadian Rockies, stops being made at Banff, Laggan and Glacier. Seattle was reached about noon on Oct. 15. A party of representatives of the Seattle and Tacoma electric railway companies who were in attendance at the convention returned to those cities on the special train, and this added greatly to the pleasure of the members of the party who came from the Eastern States.

On Friday afternoon most of the party visited the Alaska-Yukon-Pacific Exposition in Seattle. In the evening a banquet was tendered them at the Hotel Butler, Seattle, by the Stone & Webster Engineering Corporation. On Saturday morning special cars were placed at the disposal of the party for sightseeing trips around the city, the start being made at 10 o'clock in the morning. At 1 o'clock in the afternoon E. E. Potter, manager of the Seattle Electric Company, was the host at a luncheon given for the men of the party at the Rainier Club, Seattle, and later in the afternoon another trolley trip was provided. Saturday night a beefsteak dinner was arranged at the Hotel Butler, after which the party was carried in special cars to the exposition grounds to witness the ceremony of closing the fair.

Sunday morning about 20 members of the party were taken in automobiles to the Snoqualmie Falls power plant, which was inspected with much interest. Other members of the party spent the day quietly or took trips about the city in automobiles and street cars.

Monday morning, Oct. 18, the entire party was carried by special cars over the lines of the Puget Sound Electric Company to Tacoma, and thence on an inspection trip to the large power plant recently erected by the Stone & Webster Engineering Corporation at Electron. Dinner was served at the Tacoma Hotel. The special train left Tacoma at 8 o'clock Monday evening for Portland, which was reached early Tuesday morning. R. T. Laffin, of the Stone & Webster Management Association, made a brief farewell speech before the train left, and extended the best wishes of the Seattle and Tacoma railway organizations for the success of the trip. Charles C. Peirce, in reply, voiced the appreciation of the entire party for the many hospitalities extended during its visit.

While in Seattle and Tacoma the party was the recipient of many courtesies and attentions from the representatives of Stone & Webster and the companies managed by that organization. Each guest was provided with a triskilion badge, which is the trade-mark of the Stone & Webster companies, and was also furnished with tickets good for transportation over all of the electric lines in Seattle and Tacoma controlled by Stone & Webster. Pamphlets, giving technical and other information about the various properties in these cities, were furnished to the tourists, and sightseeing cars were provided for the different trolley trips.

When the train reached Portland, Tuesday morning, it was met at the station by representatives of the Portland Railway, Light & Power Company, who extended a warm greeting to the tourists. A trolley ride around the city was provided in the morning and a luncheon was given to the party at the Commercial Club at 1 o'clock. Speeches were made by the Mayor of Portland and others. In the afternoon automobiles were provided for sightseeing in and around the city. The party left for San Francisco at 6 o'clock in the evening. From San Francisco the itinerary will include Santa Barbara, Los Angeles, El Paso, San Antonio, Houston and New Orleans, thence returning by direct route to Boston.

### ELECTRIC RAILWAY ACROSS THE PYRENEES

There has just been completed between Villefranche and Bourg-Madame, in Southern France, an electric railway 34 miles long. The new line starts from Villefranche at an altitude of 1407 ft. above sea level, and is 5220 ft. high at the crest of the line and 3750 ft. at Bourg-Madame. The ruling grade is 6 per cent. Three trains a day are operated in each direction at a schedule speed of 12.4 m.p.h. The trains consist of motor cars and trailers with baggage compartments, accommodating a total of about 300 passengers and 80 tons of freight. The trains are operated on the Sprague multiple-unit system, and each motor car is equipped with four 50-hp motors. The current is taken from a third-rail at 800 to 850 volts.

In 1908 the electric railways purchased 6,425,368 cross-ties, or 5.7 per cent of the total number purchased in that year. The average price paid by electric railways for sawed ties was 54 cents. The electric railways used 61,492 treated ties, or 9.6 of the total purchased by them, while the treated ties used by the steam railroads formed 21.8 of the total.



## ELECTRIC RAILWAY LEGAL DECISIONS

## LIABILITY FOR NEGLIGENCE

**Colorado.**—Street Railroads—Injury at Crossing—Contributory Negligence—Duty of Pedestrian—Looking Along Tracks for Approaching Car—"Last Chance Doctrine."

The law gives no right of recovery for an injury sustained by a pedestrian in a collision with a car at a street crossing, where both parties are negligent, each disregarding his own duty and seemingly relying upon a performance of the duty of the other, and where the injury resulting from their concurring negligence would have been avoided if the duty of either had been performed. The law requires a pedestrian, about to cross over a street railroad, to look along the tracks to ascertain whether a car is approaching near by, and to do so at a place and time when it will be reasonably calculated to be effectual for his protection. The exception to the general rule making contributory negligence a defense, known as the "last chance doctrine," does not apply where there is no negligence of the defendant supervening subsequently to that of the plaintiff, as where his negligence is continuous and operative down to the moment of the injury, or where his negligence or position of danger is not discovered by the defendant in time to avoid the injury. (*Denver City Tramway Co. v. Cobb*, 164 Federal Rep., 41.)

**Georgia.**—Carriers—Street Railway Passenger—Negligence.

In an action for damages for personal injuries, a petition was not open to general demurrer which alleged in substance that the plaintiff, an adult, was a passenger at night on a greatly overcrowded street car of the defendant company; that after the conductor had called a given street, at which plaintiff desired to alight, plaintiff signaled the conductor, who in turn signaled the motorman to stop the car at that street; that plaintiff, thinking that such street had practically been reached, proceeded at once, for the purpose of promptly alighting and in full view of the conductor, to work his way from the center of the car along the crowded aisle to the rear platform and onto the steps, both the platform and the steps being also crowded with passengers; that by reason of his shortness of stature and the crowded condition of the aisle, platform and steps the plaintiff was unable to see or locate just where the car was; that, thinking that the car had stopped, relying on the call of the conductor, and being unable, on account of the crowd on the steps, to see the ground, plaintiff stepped from the platform onto the steps, when he discovered the car was in motion, but too late to recover himself on account of the passengers on the steps; and that, being unable on account of the number of such passengers to catch hold of the bars at the sides of the steps provided for the use of passengers in boarding and alighting from the car, plaintiff was violently thrown to the pavement, and injured and damaged as set forth. (*Worthington v. Georgia Ry. & Electric Co.*, 62 S. E. Rep., 525.)

**Kentucky.**—Street Railroads—Operation—Action for Injuries—Instructions—Applicability to Evidence—Negligence—Contributory Negligence—Child on Track—Injury—Instructions—Injuries to Persons on Track—Children—Trial—Reception of Evidence—Examination in Chief.

In an action for injuries by being struck by defendant's street car, an instruction that unless defendant's agents, or one of them in charge of the car, failed to have it under reasonable control or keep a reasonable lookout or exercise reasonable care, the jury should find for defendant, was erroneous, where defendant had two agents on the car, the conductor and the motorman, and it was not the conductor's duty to keep a lookout, since the jury might have found for plaintiff because the conductor failed to keep a lookout.

An instruction that if defendant's street car was running at a reasonable speed and under reasonable control, and plaintiff went upon the track so close to the car that the motorman could not by ordinary care prevent a collision, the jury shall find for defendant, was erroneous, since it would permit a recovery, even if a collision could not have been avoided had the car been running at a reasonable rate of speed and under control.

Though a street car was running too fast and was not under reasonable control, the company would not be liable for injuries to plaintiff if he came upon the track in front of the car so close to it that a collision could not have been avoided, even if the car had been running at a reasonable rate of speed and had been under control.

In an action for injury to a child on defendant's street railway track, instructions to be given on new trial determined.

In an action against a street railroad for injury to a

four and a half year old child, plaintiff was too young to be charged with contributory negligence, and no instruction upon that subject should be given.

In an action for injuries by being struck by a street car, plaintiff should introduce as evidence in chief testimony as to the distance in which the car could have been stopped before striking him. (*Louisville Ry. Co. vs. Gaar*, 112 S. W. Rep., 1130.)

**Maine.**—Negligence—Acts or Omissions Constituting Negligence—Carriers—Carriage of Passengers—Street Railroads—Contributory Negligence—Questions for Jury.

When the facts disclose a situation, dangerous to life or limb, into which, from its very nature, it is practically certain, even prudent men may be induced to enter, and it is practicable to remove such danger, without injuriously interfering with other rights or privileges, then the court should establish, as the law, the rule which prevents injury or loss of life, rather than that which invites or even permits it.

A street railroad is a public corporation. It receives all its privileges from the public. It depends upon the public for its income. It invites and induces the public to ride upon its cars. Great experience makes it familiar with the habits of people so riding and with their natural tendency, with or without reason, to move from seat to seat. With its special means of knowledge, it should be held to anticipate, what is even a matter of common knowledge, that a passenger riding upon one of its cars may at any place along the line and while the car is in motion undertake to change his seat.

It is too narrow a construction, and against good public policy, to hold that it is negligence per se on the part of a passenger riding on a trolley car not to anticipate that a pole may be permitted to stand so near the railroad track that he cannot, in an erect position and careful manner, pass from one seat in the car to another over the running board without danger of injury from collision with such pole.

It establishes a safer rule of law to require street railroads to exercise a degree of care sufficient for the protection of their passengers with respect to poles and other obstacles along their rights of way when such protection involves only a question of pecuniary outlay, than to hold that such railroad may be permitted, for the mere purpose of saving expenditure, to continue the maintenance of a structure which may be calculated sooner or later to result in the injury or death of a passenger.

A street railroad owes to its passengers a duty with respect to the proximity to the track of poles and other permanent structures, and that whether, in case of an injury to one of its passengers by coming in contact with a pole or other structures, the defendant was negligent in the location and maintenance thereof, is a question of fact for the jury.

In the case at bar, the chartered rights of the defendant, the location of its tracks and poles by the city, and approval of the same by the railroad commissioners, were all proceedings, assuming them to be in all respects legal, intended to bestow upon the defendant the right to exist, not to destroy. They were calculated to confer upon it the right to exercise all the privileges of its franchise, but not immunity from its negligence.

Although in the case at bar on the back of each seat in the car on which the plaintiff's intestate was riding at the time of his injury, in legible letters, plainly to be seen, were the words, "Avoid accidents; wait until the car stops," yet this notice must be construed to have been intended by the defendant as a caution to passengers against alighting from a car in motion, and not as an exemption from its own negligence. If not so intended, it was calculated to so impress the mind of the ordinary passenger.—(*Cameron vs. Lewiston, B. & B. St. Ry.*, 70 Atl. Rep., 534.)

**Massachusetts.**—Negligence—Imputed Negligence—Guest of Automobile Driver—Street Railroads—Injuries to Travelers—Question for Jury—Operation of Street Cars—Rules—Violation.

Where plaintiff, who was inexperienced in the operation of an automobile, was injured, while riding as the guest of an experienced driver, in a collision between the automobile and a street car, there being no mutuality in a common enterprise between them, the driver's negligence, if any, was not imputable to plaintiff.

Where the driver of an automobile, with whom plaintiff was riding when she was injured in a collision with a street car, turned from behind a car he was following on a narrow bridge, where the collision occurred, not only in the direction required by Rev. Laws, c. 54, § 2, but in the only direction in which there was room for him to pass, plaintiff was not negligent as a matter of law in failing to warn the



driver against turning from behind the car onto the opposite track.

In an action for injuries to plaintiff in a collision between an automobile, in which she was riding, and a street car, plaintiff's negligence, if any, held for the jury.

Where a much-traveled bridge supporting double street car tracks was so narrow that it was impossible to pass with a vehicle between a car and the guard rail, and there was considerable travel over the bridge, due care required the motorman of a car, passing another car on the bridge, to keep his car under sufficient control to avoid collision with a vehicle that might be approaching behind the passing car, and which might turn out on the track in front of him.

Where a bridge supporting double street car tracks was so narrow that a vehicle could not pass between a car and the guard rail, a violation of the rule prohibiting the operation of tow cars on the bridge at the same time, which caused a collision between an approaching car and an automobile, in which plaintiff was riding, as the chauffeur attempted to pass a car he had been following over the bridge, was some evidence of negligence in the operation of the colliding car; it appearing that, after the car and automobile became visible each to the other, the automobile came to a full stop, but the motorman, in spite of proper effort, could not stop the street car.—(Chadbourn v. Springfield St. Ry. Co., 85 N. E. Rep., 737.)

**Michigan.**—Carriers—Passengers—Injuries—Negligence.

In an action for injuries to a passenger alighting from a street car, evidence held not to establish negligence on the part of the street car company.—(Snyder v. Michigan Traction Co., 117 N. W. Rep., 889.)

**Michigan.**—Street Railroads—Operation—Collision with Vehicles—Negligence of Motorman—Last Clear Chance—Actions—Sufficiency of Evidence—Operation of Car on Approaching Vehicles—Qualification of Experts.

If plaintiff's passage across a street car track was prevented by other traffic, and a wall prevented her moving her rig to a safe distance from the track in the other direction, and the motorman saw plaintiff's dangerous position in time to stop the car and avoid striking her, but thereafter negligently ran into her rig, the company was liable for resulting injuries, even though plaintiff was negligent in driving into the dangerous position.

In an action against a street railroad for injuries sustained by colliding with plaintiff's rig, evidence held to show that the motorman recklessly ran into the rig with knowledge of plaintiff's dangerous position.

In an action for injuries caused by defendant's street car colliding with a rig on a bridge approach, a motorman, who had 17 years' experience as a motorman and conductor, was familiar with the situation at the approach, and with the car in question, upon being told of the condition of the weather at the time of the accident, could testify within what time that car could be stopped at the bridge approach when running at various rates of speed.—(Bladecka v. Bay City Traction & Electric Co., 118 N. W. Rep., 963.)

**Missouri.**—Street Railroads—Collision with Vehicles—Negligence—Contributory Negligence—Instructions—Humanitarian Duty—"Humanitarian Doctrine."

In an action against a street railway company for injuries sustained by the driver of a team in a collision with a street car, the evidence of plaintiff, to which defendant demurred, showed that plaintiff, while driving along the street car tracks, on observing the approach of a car, attempted to leave the track, but became hemmed in by other vehicles and was unable to do so, and that the motorman saw, or by reasonable care should have seen, the situation of plaintiff, but failed to stop the car or make any effort to avoid the collision until too late. Held, that the demurrer to the evidence was rightfully overruled, since the facts shown by plaintiff established defendant's negligence, without contributory negligence of plaintiff, as matter of law.

In an action for injuries to a driver of a team, sustained in a collision with a street car, an instruction that, although plaintiff was himself guilty of negligence in driving along or across the track of defendant at the time and place of the collision, that alone will not discharge the company or its employees from the observance of reasonable care in the management of its cars, is erroneous, as ignoring the defense of contributory negligence, and in not restricting the application of the principle stated therein to the doctrine of humanitarian duty.

It is the fact that a person is in danger and has perhaps been negligent that calls the humanitarian doctrine into play.

The foundation of the humanitarian doctrine is the principle that no person has the right knowingly or negligently to injure another, when he knows, or should know, if he is

reasonably careful, that his fellow is in danger of injury at his hands, and he possesses the means of removing that danger. (Ross vs. Metropolitan St. Ry. Co., 112 S. W. Rep., 9.)

**New York.**—Negligence—Contributory Negligence—Acts in Emergencies—Street Railroads—Actions—Question for Jury.

The law does not require one placed in a dangerous position by another's negligence to exercise the best possible judgment on the moment to extricate himself therefrom.

In an action against a street car company for injuries caused by the car striking plaintiff's wagon, whether defendant was negligent held for the jury. (Leonard vs. Joline et al., 113 N. Y. Sup., 682.)

**New York.**—Street Railroads—Persons On or Near Track—Injuries—Negligence—Instructions.

Plaintiff, as foreman for certain contractors, was extending the platform on the northerly side of the New York terminal of the Brooklyn bridge, on which defendant operated two lines of surface street cars. During the elevation of a girder through an opening in the floor of the bridge, plaintiff went on the platform to superintend the raising, and, seeing a train approaching, signaled the flagman, and pushed the girder so that the train could pass it in safety. The girder was hoisted until it was 6 ft. above the surface of the platform, and had swung 2 ft. over the track, when a second train approached at full speed. Plaintiff motioned to the flagman, but discovered that he was not there. Plaintiff held back the girder so that the first coach passed without hitting it, but was unable to hold it longer, and it swung over the track, hitting the second car, and, in some way, caught plaintiff's leg and injured it. Held insufficient to show negligence on defendant's part; no request having been made to suspend the operation of the trains.

Plaintiff, a contractor's foreman, was injured while raising a girder to a platform by the girder being struck by a passing street railroad train. Held, that the court erred in refusing to charge that if, when approaching the girder, the motorman saw that his car could pass in safety, and plaintiff gave no signal to stop, a verdict must be for defendant, the iron having come in contact with the body of the car after the front had passed, and in charging that, if the circumstances were such that an ordinarily prudent person in charge of the car would have been justified in concluding that he could have passed in safety, then defendant would not have been negligent. (Fay vs. Brooklyn Heights R. Co., 113 N. Y. Sup., 689.)

**Pennsylvania.**—Carriers—Street Railroads—Duties of Conductor—Duty of Passenger—Dangerous Position—Negligence of Passenger.

The conductor of a street car must control the operation of the car, and enforce the rules of the company as far as they affect the transportation of passengers.

A passenger on a street car should take the place on the car assigned to him by the conductor, unless the danger in so doing is so apparent that a reasonably prudent person would not assume it.

A passenger with numerous bundles attempted to enter an open summer car, and the conductor, after accepting his fare, directed him to occupy the platform. Held, that the passenger, in following the directions of the conductor, was not guilty of negligence as a matter of law. (Mittleman vs. Philadelphia Rapid Transit Co., 70 Atl. Rep., 828.)

**Washington.**—Street Railroads—Injury to Traveler—Complaint—Sufficiency—Pleading—Variance—Motions—Making More Definite.

A complaint alleging that plaintiff's team "was struck and knocked down and run over by defendant's cars" sufficiently alleges collisions with any or all of defendant's cars involved in the accident.

Even if a collision with only one car was alleged, a second collision occurring from five to ten minutes after the first, and before the horses could be removed from the track, was part of the same transaction, and evidence thereof was not at variance with the allegations.

If defendant was in doubt as to what particular car was referred to in the complaint, its language being broad enough to embrace more than one, it should have moved to make the complaint more definite and certain, and an objection to evidence of a second collision because so at variance with the complaint that it was not notified by the pleadings that damages were claimed for a collision with any other than the first car was insufficient. (South Tacoma Fuel & Transfer Co. vs. Tacoma Ry. & Power Co., 97 Pac., Rep., 970.)



# News of Electric Railways

## Boston, Lowell & Lawrence Electric Railroad Hearings Resumed

During the past three weeks the Massachusetts Railroad Commission has resumed public hearings upon the petition of the Boston, Lowell & Lawrence Electric Railroad for a certificate of exigency, and many witnesses in favor of the project have testified before the board. The initial hearing upon the project was held on June 14, 1909, and the plans of the company as developed by Westinghouse, Church, Kerr & Company were described by Lester W. Tucker, engineer of that organization, and briefly reviewed in the *ELECTRIC RAILWAY JOURNAL*. The company desires to build a double-track, high-speed interurban electric railway on a private right-of-way between the terminus of the Boston Elevated Railway at Sullivan Square, Charlestown, and Lowell and Lawrence. The intention is to provide a low-cost, rapid and frequent train service, and the general trend of the company's testimony has thus far been to endeavor to point out that the road will serve a traffic which neither the existing steam nor street railroads can handle. The petitioners were represented by J. W. Farley, Adalbert Ames, Jr., and James F. Jackson, formerly chairman of the Railroad Commission. For the opposition the Boston & Northern Street Railway was represented by Warren, Garfield, Whiteside & Lamson, and the Boston & Maine Railroad by Coolidge & Hight, all of Boston. R. E. Joslin appeared for the town of Winchester and Edward E. Elder for Medford.

Interest has centered during the recent hearings upon the testimony of James C. Boyd, consulting engineer with Westinghouse, Church, Kerr & Company, New York. Mr. Boyd was first called to the stand on Sept. 24. He testified that the plans for the Boston, Lowell & Lawrence Railroad had received thorough treatment. Westinghouse, Church, Kerr & Company maintain a staff of from eight to 15 men in their statistical department alone, and within the last seven years about 300 reports upon railway problems have been prepared. The financial practicability of projects is usually considered in these reports. Mr. Boyd testified as to his familiarity with the territory in question and emphasized the desirability of Boston as the primary terminal of an interurban line. Lowell and Lawrence are representative manufacturing cities in which the population spends liberally for transportation facilities, on account of a fairly high average income per family, in spite of the low average wage per individual. The engineering organization considered the project feasible and advisable. Two routes have been studied, one through Arlington Heights, and the other through Winchester, Woburn and Wilmington to Tewksbury, Lowell and Lawrence. The Winchester-Woburn route is the preferable one. It requires 66.8 miles of single track. Below is given the estimated cost of constructing this route:

### ESTIMATED COST OF WINCHESTER-WOBURN ROUTE.

Right of way.....	\$954,600
Roadbed and track.....	3,987,400
Electrical equipment.....	1,332,200
Rolling stock.....	727,400
Stations, etc.....	64,100
Total.....	\$7,065,700

The total estimated cost by the Arlington Heights route is \$6,445,600.

Mr. Boyd testified that the proposed schedule of fares provides for the sale of single-trip, 10-ride and 50-ride tickets. The fare from Sullivan Square to Lowell is to be 35 cents, and from Sullivan Square to Lawrence, 40 cents. The average rate is to be about 1.2 cents per mile. The fares were made up on a starting basis of about 1.5 cents per mile with a minimum of 1 cent. The basic rate for single-trip tickets is 1.42 cents, for 10-trip, 1.22 cents and for 50-trip, 1 cent. This was distributed on a mileage basis, except that the fare was brought to the nearest 5 cents in each case, with no fare less than 5 cents. Mr. Boyd cited the Lackawanna & Wyoming Valley Railroad as a successful road with substantially the same fares per mile as that proposed for the Boston, Lowell & Lawrence Railroad. It is expected that the 10-ride tickets will represent the average conditions. The absence of grade crossings and the infrequency of stops bring the road closer to steam railroad conditions. The absence of grade crossings will enable faster time to be made, with the result that the platform labor is reduced in proportion to the mileage covered. The proposed running time between Sullivan Square and Lowell is 35 minutes and 45 minutes for local trains. The population of Boston proper was not considered in the estimates of

the inhabitants of the road's territory. The hearing adjourned at this point to Sept. 29.

Mr. Boyd was again called to the stand on Sept. 29. He stated that the running times of the proposed road were taken to Sullivan Square instead of to the North Station in Boston for the reason that there it takes from about 3 to 5 minutes for a passenger to reach the North elevated station from a railroad train in the North Station of the Boston & Maine Railroad, depending upon the number of the track on which the train arrives, while from 6 to 7 minutes are consumed by a Boston Elevated train between Sullivan Square and the North Station. In addition, a passenger can get off an elevated train more quickly than a steam train, an average time of emptying a steam train being 50 seconds against 20 seconds for the elevated. This would mean that the estimate of the time to Sullivan Square would make a net difference of only 2 or 3 minutes, compared with the North Station. It would be necessary for a passenger to walk only from 50 to 100 ft. to reach an elevated train at Sullivan Square.

The desirability of terminating the proposed line at Sullivan Square was next emphasized. The promoters and engineers feel that where a large city has a rapid transit system in operation, a road entering the community from outlying points should deliver traffic to the city system. In this way the facilities are confined to a single control and the service is rendered in the least expensive manner. In New York the lines which extend beyond the city limits deliver their passengers well out upon the city lines. Regarding the capacity of the Sullivan Square terminal to handle traffic over the Boston, Lowell & Lawrence Railroad, the witness stated that the former congestion at Sullivan Square was due to the operation of elevated trains in the Tremont Street Subway, which limited the speed and the length of the train units, and to the limited capacity of the station on the elevated system. The transfer of elevated trains to the Washington Street Tunnel has resulted in greatly improved handling of traffic and the extension of platforms to accommodate 8-car trains has also been an important change for the better. Mr. Boyd stated that at a conservative estimate the capacity of the Boston Elevated rapid transit overhead and tunnel system will be doubled by these changes, and the extension proposed to Medford will also tend to cut down any congestion at Sullivan Square. It is estimated that the Boston, Lowell & Lawrence Railroad would be self-supporting in three years. The estimated traffic was based upon a study of the present travel between the different cities, the population of the territory and a comparison with the Lackawanna & Wyoming Valley Railroad.

A study was made of travel between Lowell and Boston, based largely upon figures filed by the Boston & Maine Railroad and the Boston & Northern Electric Railway in the first case before the board relating to the proposed road, about three years ago. The estimated earnings from travel on the Boston & Maine Railroad were \$275,000 per year and on the Boston & Northern Street Railway, between Lowell and Boston, \$188,000. It was estimated that by 1916, after three years of operation, the earnings of the new road between Boston and Lowell would be \$4.10 per capita, or a total of \$450,000 per year and between Boston and Lawrence, \$400,000 per year, or \$3.66 per capita. It was estimated that the travel between Lawrence and Lowell would give a revenue of \$150,000 per year, and that the present running time would be cut in half by the new road. For intermediate service the earnings would be about \$64,000, making total earnings of about \$1,000,000 per year for the system. The schedule would call for 2,800,000 car miles per year, or gross receipts of nearly 40 cents per car mile. The tributary population is about 233,473, and the earnings should reach \$1,000,000 on an average per capita expenditure of \$4.30. The comparison with the Lackawanna & Wyoming Valley Railroad showed that in the latter case the riding between Scranton and Wilkes-Barre, the terminals, brought in about 50 per cent of the gross passenger receipts. Scranton has a population of about 124,000 and Wilkes-Barre, 22 miles distant, has 63,000 inhabitants. Treating Scranton as the primary terminal gave gross earnings of \$3.86 per capita from Wilkes-Barre. About 16 per cent of the riding was between Scranton and Pittston, the latter having 14,356 inhabitants. Pittston's per capita expenditures were \$5.42. The per capita earnings between Scranton, Wilkes-Barre and Pittston, excluding the Scranton population were \$4.15. The riding between the two secondary terminals of Pittston and Wilkes-Barre was about 13 per cent of the total, and for that section of the road, treating Wilkes-Barre as the primary terminal, the result is \$5.34 per capita. The local



traffic of the road is 20.7 per cent of the total. Taking the total tributary population of the road and excluding Wilkes-Barre the earnings show an expenditure of \$5.25 per capita. A comparison of the riding estimated by reference to the Boston, Revere Beach & Lynn line, excluding the beach service gave \$4.15 gross receipts per capita for the Boston, Lowell & Lawrence Railroad. It is estimated that the company can operate for 50 per cent of the gross earnings.

Under cross-examination by Bentley W. Warren, for the Boston & Northern Street Railway, Mr. Boyd stated that there should be little difference between the Arlington Heights and the Winchester routes in point of attracting through travel. Land damages were figured by counsel, the assessed values having approximately 50 per cent added to cover the injuries to property. The selection of a terminal at Lawrence is held back on account of the present railroad grade crossing situation. The class of travel which would be created by the road would differ materially from the travel on the Boston & Maine.

Cross-examination of Mr. Boyd was continued on Sept. 30. He stated that the estimate of land damages on the Winchester-Woburn route is \$954,600, and on the alternate route \$873,700. The maximum speed of the trains is to be about 55 m.p.h. Thirty-eight cars are estimated as the necessary rolling stock at the commencement of operation. These are to be built with steel underframes and are to be equipped with two 200-hp motors. Passengers are to enter and leave at the platform level. Cross seats and multiple unit control are provided. The transmission line is to be operated at 20,000 volts between the power house and the substations. Four substations will be required. The cost of each car will be about \$14,000. The estimated cost of stations is \$64,000, including a \$25,000 terminal at Sullivan Square and a \$12,000 station at Lowell. The intermediate stations are to consist of a simple waiting room, with a ticket office over each and an umbrella shed over the platform. An elevated structure 650 ft. long is to be built at Sullivan Square in connection with the present station, the plan providing for a single short connection between the interurban and the elevated stations. A stub-end terminal would be used, with four tracks. At the Lowell station the platform would be about 7 ft. below the level of the street. In response to a question by Mr. Warren, Mr. Boyd stated that the electrification of the Erie Railroad's Rochester division has shown better passenger earnings than were estimated. The electrification was undertaken as an experiment by the Erie road, and the results show that electrification was justified. About 50 miles of road were electrified and the passenger business more than doubled in the first year of operation. The Long Island electrification has saved the difference in operation on the first 100 miles of track changed over that the company hoped to effect below the cost of steam service, and the business has also been increased. Mr. Boyd admitted that in general it would cost less to electrify an existing steam road than to build a parallel high-speed electric road, and that it would cost less to electrify the Boston & Maine between Boston and Lowell than to build the proposed line of the Boston, Lowell & Lawrence. The hearing then adjourned until Oct. 12.

#### Cleveland Traction Situation

Judge Tayler has taken up the questions referred to him under the conditions imposed in a letter addressed to the city and the Cleveland Railway recently, which include the task of valuing the property and franchises of the company and fixing the maximum fare, and has also accepted the commission of arbitrating the difference between the city and the company on the Euclid Avenue-East Cleveland matter and the contract that is to be entered into with the interurban railways. The committee of which the judge is a member has completed the so-called safety clause of the franchise and it has been accepted by both sides, as well as the clause giving the company preference in the bids at the end of eight years, when the city is to have the right to nominate a bidder for the property.

On the evening of Oct. 12 Horace E. Andrews, president of the Cleveland Railway, reported to the Council committee of the whole that the Council of East Cleveland had refused to modify the contract of the company with that village, and suggested that this, with other disputed points, be referred to Judge Tayler for final determination. The committee replied that as Judge Tayler is to determine the value of the property, including the franchises, this question might also be referred to him, since he would necessarily be the arbitrator of unprofitable as well as profitable contracts held by the company. The company opposed the proposal that the judge should be asked to state the amount to be deducted for the loss claimed from operation through East Cleveland on the ground that the Council, in giving

instructions to make a deduction on account of this contract, would be taking part in the arbitration.

At this meeting a report was made on progress with the new contract with the interurban railways, but this was not acted upon by the committee. Among the changes from the Baker ordinance asked for by the interurban railways at that time were that passengers paying a cash fare of 5 cents should be entitled to a transfer to and from interurban cars; that the weight of interurban cars, without load, should not exceed 80,000 lb., without the consent of the city, and that the cars should not be required to stop for passengers on inbound trips nor to allow them to alight on outbound trips.

On Oct. 13 the interurban question was discussed. The city replied to the proposition embodied in the report. Regarding the fare, it took the position that passengers should be carried to the city limits, rather than to the junction of the interurban and city lines. Interurban companies should be required to give and receive transfers, but they should not be free unless free transfers are given on the city lines. The weight of cars, without load, should be limited to 80,000 lb. for those now in use and to 70,000 lb. for those which are purchased in the future. Stipulations regarding stopping to receive and discharge passengers are agreed to as is the minimum charge of 18 cents per car-mile. The Council insists that city cars be operated to Garfield Park and that service be given to Lindale over the Lorain Street line, as passengers have been paying two fares for this service under the present arrangement. In its conclusion the city agrees to leave the existing differences on all these points to Judge Tayler for decision. Officers of the company also asked that any differences which may arise in the negotiations before the franchise is granted be referred to Judge Tayler.

On the afternoon of Oct. 14 the Council committee of the whole adopted a resolution accepting the clause prepared for the purpose of safeguarding the city and giving the Cleveland Railway the preference when bids are asked for the property at the end of eight years. The clause referring to the sale states that the city shall have the right to name a purchaser after Jan. 1, 1918, who will agree to accept one-fourth of 1 per cent less return on the investment under this grant than the original holder. Under the clause, the city may, upon 30 days' notice, fix a time for receiving bids. Proposals other than those from the Cleveland Railway must be accompanied by a cash deposit of \$50,000 to recompense the Cleveland Railway for any expense it may have incurred in bidding and any balance is to go to the city treasury. If the company's bid is as low as that of its competitor, it shall be accepted. The rate of interest in the proposal then made shall be in force from that time on, unless no other proposal is filed or the bidder fails to complete the transaction, when it shall be the same as it had been for the eight years. A period of six months must elapse between bids.

Respecting the so-called safeguard feature, the clause prepared by the committee stipulates that if the section of the ordinance dealing with rates of fare shall fail, including the provision for submitting it to arbitration, the City Council shall have power to fix the rate of fare from time to time, not exceeding the maximum that is yet to be determined, and not to decrease the rate of fare unless the amount in the interest fund shall exceed \$500,000. The rate so fixed shall not be such as to impair the ability of the company to pay all expenses and yield 6 per cent on the investment. In case the company refuses to turn over its property to a purchaser after the city has decided that a licensee shall purchase it, the City Council is to have the power to revoke the grant. The books of the company must always be open to the city and a commissioner will be appointed especially to care for the city's interests.

On Oct. 15, Judge Tayler asked that arrangements be made for the representatives of the city and the company to meet him as soon as possible to fix upon details of the work that he is to perform. He suggested that the questions submitted to him be taken up in the following order: East Cleveland, interurban, valuation and maximum fare. As a result Mayor Johnson called a meeting for Oct. 16 to discuss this matter.

The Cleveland Railway has declared its intention of accepting the clauses prepared by the special committee relating to safeguards and naming of a bidder for the property at the end of eight years. Regarding the questions to be submitted to Judge Tayler, Mr. Andrews sent the following letter to the City Council:

"As to the so-called East Cleveland question, your statement that we have already agreed to submit to Judge Tayler the determination of the true and just value of the property of the company, including franchises, is correct. This submission includes, of course, the East Cleveland franchises.



"With reference to the interurban question, to the extent to which we are unable to secure changes in contracts to meet your views, we are willing that the question be submitted to Judge Tayler; and they are now in such shape that they can be referred to him immediately.

"In view of our agreement to leave to Judge Tayler, the city solicitor, Judge Lawrence and Mr. Tolles, the drafting of sections 33 and 47, it is unnecessary to say more in regard to the provisions of those sections than that we have accepted the report made by that committee."

On Oct. 16 the City Council, acting as a committee of the whole, named Mayor Johnson as its representative in the hearing before Judge Tayler as arbitrator. Following the suggestion of the Cleveland Railway the Council also agreed to leave the question of interurban contracts as a whole with Judge Tayler. Still insisting that something should be deducted from the franchise value because of the so-called unprofitable contract, the Council sent a letter to the company commenting upon the East Cleveland question. The Cleveland Railway replied that the officers felt that franchises such as those in East Cleveland are valuable and that something should be added to the value of the other property, instead of deducted. The company, however, agreed to the plan of the Council, suggesting that attorneys representing both sides agree upon the phraseology of the ordinance.

On Oct. 17, City Solicitor Baker sent the officers of the Cleveland Railway the draft for the proposed new grant which he had prepared under instruction from the City Council. This draft, however, covers only the points that have been agreed upon, leaving blank those clauses covering subjects before Judge Tayler. The invalidity clause, prepared by Judge Tayler, Judge Lawrence, Mr. Tolles and the city solicitor, Mr. Baker, is included. This clause provides that if any of the material provisions relative to fixing the fare be declared invalid, the City Council may regulate the rate of fare under the restrictions named in another portion of this article. If that part of the ordinance relating to settling questions by arbitration be found invalid, the City Council shall be declared the board of arbitration and settle disputed points. The city auditor is to assume the duties of street railway commissioner in case the portion relating to that position is found to be invalid. Under this draft of the ordinance the Cleveland Railway must put into use not less than 450 pay-as-you-enter cars and within 18 months all cars except 100 trailers must be of this type. The city reserves the right to control the schedules and routes of both the local and interurban cars, but is not to fix a service that will reduce the dividends below 6 per cent. In case of disagreement between the street railway commissioner and the company regarding the keeping of accounts, the matter shall be referred to the committee on standard classification of accounts of the American Street & Interurban Railway Accountants' Association. All rates of fare are provided except the maximum which will be inserted after Judge Tayler arrives at a conclusion. Attorneys for the company have also prepared an ordinance which will be submitted to the city for comparison with the Baker draft and some minor changes in the Baker grant will probably be made.

Representatives of the city and the Cleveland Railway met Judge Tayler on Oct. 18 to discuss arrangements for the work of making the valuations. It developed that the proposed new ordinance for the Cleveland Railway will not be effective unless it is accepted by the Municipal Traction Company, the Forest City Railway, the Low Fare Railway and the Neutral Traction Company, all organized for different purposes during the movement for 3-cent fares. Judge Tayler expressed surprise when he discovered that the city had put this provision into its ordinance, after it was understood that all questions with the exception of those referred to him had been settled. It was supposed that the Cleveland Railway is the only one concerned in the acceptance of the grant. The company and the city have agreed that the Euclid Avenue line is to be included in the franchise ordinance and that Judge Tayler shall consider the effect of the East Cleveland haul in connection with the valuation he places upon the franchises.

#### Transit Affairs in New York

The power of the Public Service Commission to order the completion of an electric railway for which a franchise has been obtained or to order the operation of disconnected portions of a line already constructed was questioned on Oct. 11 by counsel for the New York City Interborough Railway at a hearing before the full commission. Commissioner Eustis, to whom the proceeding had been assigned at the last hearing, stated that he would recommend an order requiring the company to complete and operate its

line from 145th Street and Lenox Avenue over the Harlem River to 149th Street, thence east through 149th Street to St. Ann's Avenue and north to 156th Street. The line as contemplated is to extend easterly to the Bronx River, but at 156th Street it has been held up by the Supreme Court, which has issued a temporary injunction. Counsel for the railroad assured the commission that it was the intention of the company to proceed with the work as rapidly as possible, but some delay was unavoidable, and he asked the commission not to issue an order, which he also claimed would be illegal.

Commissioner Eustis was not inclined to allow any further delay. He said: "The tracks in 149th Street have been laid three or four years, and they ought either to be used or to be removed. I have given the company already an abundance of time to see what it would do, but instead of completing the road it has gone to the Board of Estimate and got the time for construction under the franchise extended to 1912." The hearing was continued on Oct. 18, and counsel were directed to submit briefs.

Kraukoff, Harmon & Mathewson, attorneys representing the New York Parcel Dispatch Company, addressed a letter to the Public Service Commission of the First District of New York on Oct. 15 relative to the construction of a tube subway system in various parts of the city to be operated for the carriage of parcels and packages either by compressed air or electricity. No details were suggested in the letter of the lawyers, and the statement was made that L. B. Stillwell, the engineer for the company, would confer with the commission as to the plans for construction.

#### Reference to Chicago Electrification in Illinois Central Railroad Report

The report of the Illinois Central Railroad for the year ended June 30, 1909, contains the following reference to the electrification of the company's lines out of Chicago under the heading "Electrification of Chicago Terminals":

"The subject of electrification of the Chicago terminals of this company has had and is having most earnest and thorough consideration. The problems presented are unique and complex. There are no great freight terminals operated by electricity, and it is questionable, even aside from the great expense involved, if it is practicable. There are over 310 miles of track in the terminals, and there is a very heavy exchange of cars between this road and other roads in Chicago; to effect this exchange it is necessary that the trains of this company shall go upon the tracks of other companies, and that their trains shall come upon our tracks; with this road alone electrified, this exchange of cars would not be practicable.

"Without precedents to guide, the estimates of cost are at best unreliable; from the best obtainable information it would appear that the cost of electrifying the terminals of this company would be more than \$18,000,000, a great sum to expend upon what would be of doubtful success in operation. Earnest and painstaking investigation and consideration are being given to the subject, and pending a solution of the problem that will be satisfactory to all the interests concerned this company is devoting great attention to reducing to a minimum the noise and smoke of its locomotives. The board has authorized the purchase of, and the officers are negotiating for, cars propelled by gasoline motors and adapted for handling suburban passengers. Experiments in the use of coke as fuel for locomotives are being pursued."

Bernard W. Snow, chairman of the finance committee of the Chicago City Council, has introduced a mandatory ordinance in the City Council of Chicago to compel every railroad operating into the city to substitute electricity for steam as motive power within an 8-mile radius of the City Hall, Chicago, by Jan. 1, 1912. The ordinance has been referred without discussion to the committee on local transportation.

#### Convention of Association of Railway Electrical Engineers

The Association of Car-Lighting Engineers held its second annual convention in Chicago from Oct. 4 to 7. A. J. Farrelly, in his presidential address, outlined the history of the association since its inception in May, 1908. In accordance with the plan to increase the scope of the association so as to include the applications of electricity to general railroad work it was decided to change the name of the body to the Association of Railway Electrical Engineers. J. H. Klink addressed the convention on the application of electricity to railway shops, and many arguments were advanced to show the superiority of electric drive for this



class of work, although the first cost is considerable. The report of a special committee on axle generators was read by J. R. Sloan. This dealt with the design and construction of the axle generator proper and its auxiliary apparatus.

George W. Cravens, designing and consulting engineer, Chicago, Ill., read a paper entitled "Electrification of Steam Railroads," in which he said that it is generally recognized among railroad men that the change in motor power from steam to electricity will come eventually. He said that in Illinois, Indiana and Ohio, where there are about 5000 miles of electric railway as compared with about 30,000 miles of steam railroad, the cost of operation by electricity averages 15.8 cents per car mile, divided as follows: 3.7 cents for energy; 5.4 for operation; 1.3 for maintenance of cars and equipment; 1.7 for maintenance of a permanent way, and 3.7 for operation. The cost of operating steam railroads averaged from 40 cents to 60 cents per car mile. In discussing Mr. Cravens' paper, Mr. Pomeroy remarked that in estimating the cost of operation by steam and electricity it is difficult to compare one road with another on account of the wide variation in conditions. He said that the comparative cost per car mile is not the only criterion, because in some cases it is possible with electricity to handle on two tracks traffic that with steam requires four tracks.

The following officers were elected for the ensuing year: President, E. M. Cutting, engineer of train lighting, heating and ventilation, Southern Pacific Railway, Oakland, Cal.; first vice-president, J. R. Sloan, electrical engineer, Pennsylvania Railroad, Altoona, Pa.; second vice-president, F. R. Frost, electrical engineer, Atchison, Topeka & Santa Fé Railroad, Topeka, Kan.; secretary and treasurer, George B. Colegrove, chief electrician mechanical department Illinois Central Railroad, Chicago. The next annual convention will be held in Chicago on Oct. 4, 5, 6 and 7, 1910, and a semi-annual meeting will be held in Buffalo on June 7 and 8, 1910.

#### Philadelphia Transit Talks

Transit Talk No. 22 of the Philadelphia (Pa.) Rapid Transit Company was dated Sept. 30, 1909. It was entitled "Notify Emergency." The talk follows:

One of the few exciting things about the operation of the traction company is the emergency department.

"Notify Emergency" is rule No. 1 in case of trouble, and the emergency dispatcher's desk, in the lines and cables department, is never vacant for an instant, night or day.

For the emergency dispatcher to get the report of a blocked line, phone the station nearest to the trouble and have an emergency crew on its way all within three minutes—that is not considered anything out of the ordinary.

There are eight emergency stations, equipped with wagons, tower and wrecking cars. An automobile tower wagon that can make even quicker time than horses is now being built for us. The average year's work for the emergency department, not including ordinary repairs, is 17,000 jobs; this includes 900 wagons blocking the line, 600 wire repairs and 350 fires.

Frequent surprise tests are made to find out how quickly the emergency crews get to work, and regular examinations are held to test the men's knowledge regarding the power system. It takes at least five years to train an emergency-wagon foreman, for, among other things, he must know from what source every block of trolley wire derives its power and how the supply, if cut off, can be most quickly replaced.

The whole lines and cables department is kept keyed up to the highest pitch of efficiency; it must be to maintain 618 miles of overhead wire and 1000 miles of underground cable. And the department does its work so well that it has become a model for other systems.

Transit Talk No. 23 was dated Oct. 5, 1909. It was entitled "Cleanliness Is Next." The talk follows:

Suppose your house had 2000 rooms, with 40,000 windows, and that you housed 1,250,000 guests a day in addition to a household staff of 6000.

Such a supposition will enable you to understand our house-cleaning problem. We have 2000 cars that must be cleaned every day. And we do this cleaning notwithstanding the fact that most of the cars are in use the greater part of the 24 hours.

Every car is thoroughly cleansed and every window is washed at least once a day. If you happen to notice a car that is not in good condition, you may be sure that it has become dirty since it started on the day's run.

In addition to rendering the cars sanitary we try to eliminate sources of uncleanness. There is a sign in every car calling attention to the State law prohibiting spitting in public places and fixing penalties for violation of the act.

We wish that this law and the health bureau regulations could be more strictly enforced. Observance of such laws is imposed by public opinion. Public disapproval of spitters will do more than anything else to stop the practice, to lighten our house-cleaning and to make you more comfortable.

Transit Talk No. 24 was dated Oct. 8, 1909. It was entitled "How to Reach the Auto Race Course," and was prepared especially for the benefit of those who desired to witness the Fairmount Park automobile race on Oct. 9. A map of the course was published with a key to the lines running to different points along the route of the race.

**New Road Opened in Montana.**—The Gallatin Valley Electric Railway, Bozeman, Mont., has been placed in operation. The road extends from Bozeman to Salesville, and is 20 miles long. It is the first long rural electric railway to be built in Montana.

**Kansas City Franchise Amendments Passed.**—On page 885 of the ELECTRIC RAILWAY JOURNAL of Oct. 16, 1909,

mention was made of the introduction into the Council of Kansas City, Mo., of the ordinance extending the franchise of the Metropolitan Street Railway. Of the amendments noted in that issue as having been introduced two have been adopted by the committee on streets, alleys and grades of the upper house. One changes the fare from 5 cents to six tickets for 25 cents, or 25 tickets for \$1, after Jan. 1, 1913. The second provides that the city relinquish the right which it seeks to share the earnings of the company.

**Another Subway Proposal in Chicago.**—M. H. McGovern has presented to the City Council of Chicago a general proposal for the construction of a subway system throughout the territory bounded by Chicago Avenue, Twenty-second Street, Halsted Street and the Lake. Mr. McGovern's communication follows: "We hereby propose to enter into a contract to build a subway system for Chicago in accordance with the plans and specifications of the expert engineers employed by the city and ourselves, and are prepared to give any necessary assurance of our financial ability to the extent of \$100,000,000 or more. We will accept an ordinance that will give municipal ownership as practically as present financial and legal conditions will permit and without delay."

**Electrical Show in New York.**—The third annual electrical show in New York was held at Madison Square Garden from Oct. 11 to Oct. 21. As has been the custom for the last few years, the exhibits were confined largely to apparatus and devices having to do with the household, such as irons, washing machines, vacuum cleaners, etc. The New York Edison Company, the United Electric Light, Heat & Power Company, the Edison Electric Illuminating Company of Brooklyn and the Public Service Corporation of New Jersey were all represented. Dossert & Company, the General Electric Company, the Westinghouse Electric & Manufacturing Company, Studebaker Bros. and the Electric Storage Battery Company also exhibited. The show was in every way a success, the record of attendance both in the afternoon and evening being very large.

**Examination for Examiners and Clerks for the Interstate Commerce Commission.**—The United States Civil Service Commission announces an examination on Nov. 23 and 24, 1909, to secure eligible applicants from whom to make certifications for the appointment of examiners and clerks in the bureau of statistics and accounts of the Interstate Commerce Commission. The examination will be a very important one and is designed to secure for the commission persons with expert qualifications in the various fields of railway or other common-carrier accounting. Eligible applicants obtained from the examination will be classified in three groups, as follows: Group A, examiners, salary \$2,220 to \$3,000; group B, examiners, salary \$1,860 to \$2,100; group C, clerks, salary \$1,200 to \$1,620. It is expected that five appointments will be made from group A, 50 from group B and 50 from group C. The age limit is 21 to 48 years on date of examination. The general qualifications for the different positions were given on page 641 of the issue of the ELECTRIC RAILWAY JOURNAL for Sept. 12, 1908. Those who desire to qualify for appointment should apply at once to the United States Civil Service Commission, Washington, D. C., for application form 304.

**Public Service Commission Appeals Decision Reversing Its Finding.**—The Public Service Commission of the Second District of New York has instructed its counsel to appeal from the order of the Appellate Division of the Supreme Court reversing and annulling the decision of the commission which denied the application of the Delaware & Hudson Company for authority to issue certain bonds, and re-submitting the application to the further consideration of the commission. In June, 1908, the Delaware & Hudson Company applied to the commission for authority to mortgage its railroad properties, rights and franchises to secure an issue of \$50,000,000 first and refunding 4 per cent bonds, due in 1943, and to issue immediately \$20,000,000 of the bonds for the funding of floating debt and for the provision of funds for improvements. In July the commission announced its decision, granting the company authority to issue \$26,500,000 for the purpose of retiring outstanding bonds, and \$13,276,000 for the purpose of taking care of certain existing note obligations aggregating \$12,664,080. The company wishes also to issue bonds to refund issues put out at the time of the acquisition of 75,000 shares of stock of the United Traction Company to the amount of \$4,665,295, to refund some \$230,000 stock and bonds of the Troy & New England Railway and to cover advances to \$2,500,000 made to the Hudson Coal Company. These last three issues were disallowed on the grounds that no proof had been presented by the Delaware & Hudson Company showing them to be proper subjects for capitalization under a mortgage on the railroad properties.



# Financial and Corporate

## New York Stock and Money Market

October 19, 1909.

The losses which occurred in the stock market during the temporary reaction two weeks ago, caused by the sudden advance in the rates for money, have practically been regained, and the movement recently has been upward and the tone strong. The buying of stocks for investment or for long trades is still in evidence, bearing witness of the faith of the public in future higher levels. Traction stocks have shared in the activity and strength of the market, although the fluctuations have not been as pronounced as in the case of more popular issues. Interborough-Metropolitan—both common and preferred—has appeared to a considerable extent in the trading although price changes have been unimportant.

The price of money shows no further tendency to advance and the banks appear to be amply supplied for all reasonable trading. Rates to-day were: Call, 4 to 4½ per cent; 90 days, 4¾ per cent.

### Other Markets

Subway stock holds the interest among the tractions in Chicago. During the week it has advanced several points and to-day sold as high as 9½. Metropolitan Elevated has also developed some activity, but is a trifle lower.

In the Philadelphia market there has been some selling of Rapid Transit, causing fractional price recessions, but the movement is not sufficiently definite to be worthy of especial note. Other traction issues are neglected.

There is not much doing in traction stocks in the Boston market. Odd lots of Massachusetts Electric and of West End have appeared in the market, but prices are virtually at the old figures.

As usual, the traction interest in Baltimore is confined to the bonds of the United Railways Company. These are traded in daily to some extent at the former ranges of prices.

Quotations of various traction securities as compared with last week follow:

	Oct. 11.	Oct. 19.
American Railways Company.....	a46	a46
Aurora, Elgin & Chicago Railroad (common) .....	*48	a45
Aurora, Elgin & Chicago Railroad (preferred) .....	*92	a95
Boston Elevated Railway .....	130	130½
Boston & Suburban Electric Companies .....	a7½	15
Boston & Suburban Electric Companies (preferred) .....	a73	73¼
Boston & Worcester Electric Companies (common) .....	10½	a11½
Boston & Worcester Electric Companies (preferred) .....	a55	a54
Brooklyn Rapid Transit Company .....	77¾	78¾
Brooklyn Rapid Transit Company, 1st pref., conv. 4s .....	87	86½
Capital Traction Company, Washington.....	a140	a140
Chicago City Railway .....	180	a190
Chicago & Oak Park Elevated Railroad (common) .....	*1¾	*2
Chicago & Oak Park Elevated Railroad (preferred) .....	*7	*10
Chicago Railways, ptcptg. ctf. 1.....	109¾	a110
Chicago Railways, ptcptg. ctf. 2.....	36½	a37
Chicago Railways, ptcptg. ctf. 3.....	24½	a25
Chicago Railways, ptcptg. ctf. 4s.....	9	a10
Cleveland Railways .....	*78	a84
Consolidated Traction of New Jersey .....	a78	a77
Consolidated Traction of N. J., 5 per cent bonds.....	a107	a106½
Detroit United Railway .....	69	a68
General Electric Company .....	163	164
Georgia Railway & Electric Company (common) .....	a98	a99½
Georgia Railway & Electric Company (preferred) .....	*88½	*88½
Interborough-Metropolitan Company (common) .....	15¾	17½
Interborough-Metropolitan Company (preferred) .....	47¼	49¾
Interborough-Metropolitan Company (4½s) .....	82½	83¾
Kansas City Railway & Light Company (common) .....	41	a40
Kansas City Railway and Light Company (preferred) .....	82	80¾
Manhattan Railway .....	a144	a142
Massachusetts Electric Companies (common) .....	a18	17¾
Massachusetts Electric Companies (preferred) .....	80	81
Metropolitan West Side, Chicago, (common) .....	17¾	a18
Metropolitan West Side, Chicago, (preferred) .....	52	a53
Metropolitan Street Railway .....	a24	a24
Milwaukee Electric Railway & Light (preferred) .....	*110	*110
North American Company .....	78	a80
Northwestern Elevated Railroad (common) .....	20	a20
Northwestern Elevated Railroad (preferred) .....	70	a69
Philadelphia Company, Pittsburg (common) .....	48	a48½
Philadelphia Company, Pittsburg (preferred) .....	41	a44½
Philadelphia Rapid Transit Company .....	28	a28
Philadelphia Traction Company .....	90	a90
Public Service Corporation, 5 per cent col. notes .....	a101	a100¾
Public Service Corporation, cts. ....	a95½	a95
Seattle Electric Company (common) .....	a114	a114¾
Seattle Electric Company (preferred) .....	105	a104
South Side Elevated Railroad (Chicago) .....	51	a52
Toledo Railways & Light Company .....	9½	a10
Third Avenue Railroad, New York .....	19½	21
Twin City Rapid Transit, Minneapolis (common) .....	a109½	109
Union Traction Company, Philadelphia .....	52½	a53¼
United Rys. & Electric Company, Baltimore .....	14¼	a14
United Rys. Inv. Co. (common) .....	41	43
United Rys. Inv. Co. (preferred) .....	70¾	72½
Washington Ry. & Electric Company (common) .....	a47¼	a47
Washington Ry. & Elec. Company (preferred) .....	a94	a93¾
West End Street Railway, Boston (common) .....	95	94
West End Street Railway, Boston (preferred) .....	104	103
Westinghouse Electric & Manufacturing Company .....	85¾	86
Westinghouse Elec. & Mfg. Company (1st pref.) .....	a140	140

aA=ked.

\*Last Sale.

**Anderson (S. C.) Traction Company.**—The property of the Anderson Traction Company has been sold under foreclosure by order of the Federal Court to E. W. Roberts, one of the receivers, for \$154,750.

**Boston (Mass.) Suburban Electric Companies.**—A. E. Viles, treasurer of the Boston Suburban Electric Companies, will receive tenders of the stock of this voluntary association for cancellation until Oct. 27 at 3 p. m., at the office of the Boston Safe Deposit & Trust Company. The tenders will be opened by the trustees of the Boston Suburban Electric Companies at a meeting with a stockholders' committee on Oct. 28, and acted upon not later than Nov. 5 at 2 p. m. Stock representing tenders accepted must be presented for cancellation 10 days after notice of acceptance, which will be not later than Nov. 8. In a circular to the stockholders Mr. Viles says: "The trustees are ready to expend cash to an amount not exceeding \$600,000, and to issue notes of the trust to an aggregate amount not exceeding \$2,000,000 for the acquisition of preferred and common shares upon terms deemed advantageous to the trust, the number of common shares acquired not to exceed the number of preferred shares. They accordingly invite tenders of preferred and common shares for cash and for notes. The notes issued in exchange for shares will be 4 per cent 10-year coupon notes of the Boston Suburban Electric Companies, dated Dec. 1, 1909, with interest payable semi-annually, in denominations of \$1,000, \$500 and \$100, with a provision for their retirement on any interest day on 60 days' previous notice at 105 per cent, if called at any time before Dec. 1, 1914, or at 102½ per cent, if called at any time after Dec. 1, 1914. These notes will not be specially secured, but will be simple obligations of the trust."

**Camden & Trenton Railway, Camden, N. J.**—The date for the sale of the Camden & Trenton Railway under foreclosure has been fixed for Nov. 12, at Trenton.

**Chicago (Ill.) Consolidated Traction Company.**—A general reorganization committee for the Chicago Consolidated Traction Company was organized at Chicago on Oct. 9, with Charles G. Dawes, president of the Central Trust Company of Illinois, as chairman, and adopted a plan of reorganization. Subsequently Mr. Dawes made a statement in which he said: "Our plan provides that the committee, in the name of a new company, shall apply for a franchise, negotiating concurrently and under the supervision of the proper representatives of the city an operating agreement with the Chicago Railways. The underlying bonds were issued originally by subsidiary companies, and are all in default. The second, or consolidated, bonds amounting to \$6,750,000 are also in default. Under the plan the first mortgage bondholders release their first lien, so that new money can be obtained by a rehabilitating mortgage to put the road in shape for good service. The present first mortgage bondholders take a second mortgage. The consolidated bondholders cancel their bonds and receive participation receipts, issued against the stock of the new company, which latter will be issued for only a nominal amount. None of the members of the general reorganization committee owns any of the securities of either the Consolidated Traction Company or of the Chicago Railways." The general reorganization committee consists of James N. Wallace, president of the Central Trust Company of New York; Emile K. Boisot, vice-president of the First Trust & Savings Bank, Chicago; C. P. Hoover, vice-president of the Harris Trust & Savings Bank; Hans Winterfeldt, of the firm of Speyer & Company, New York; Andrew Cooke of the Harris Trust & Savings Bank; Allen Forbes of N. W. Harris & Company, New York, and Charles G. Dawes, president of Central Trust Company of Illinois. B. F. Blye is secretary.

**Detroit (Mich.) United Railways.**—The Detroit United Railways has applied to the Railroad Commission of Michigan for authority to issue in January, 1910, \$2,000,000 of bonds for the purpose of taking up indebtedness. The company has \$2,000,000 of 5 per cent collateral trust notes maturing on Feb. 15, 1910.

**Everett Railway, Light & Water Company, Everett, Wash.**—The Everett Railway, Light & Water Company has made a mortgage dated Feb. 1, 1909, to the American Trust Company, Boston, Mass., as trustee, to secure an issue of \$4,000,000 of bonds, of which \$2,000,000 are to be used in taking up underlying bonds and \$2,000,000 for improvements.

**Fayetteville Consolidated Power & Street Railway Company, Fayetteville, N. C.**—The difficulties of the Fayetteville Consolidated Power & Street Railway Company have practically been adjusted. It is understood that bonds to the amount of \$75,000 will be issued, and that an application will be made at once to the court to dissolve the receivership. The funds to be raised by this bond issue, it is stated, will be sufficient to carry out the plans for improvements and extensions.



**Metropolitan Street Railway, New York, N. Y.**—Counsel for the Guaranty Trust Company, New York, N. Y., trustee of the first mortgage of the Metropolitan Street Railway, filed a motion, on Oct 12, in the Supreme Court for the advancement and early hearing of the Guaranty Trust Company's appeal from the judgment of the Federal Circuit Court of New York, ordering foreclosure; but permitting the receivers of the road to issue certificates having priority over the mortgage.

**Middlesex & Boston Street Railway, Framingham, Mass.**—The Railroad Commission has approved the consolidation of the Middlesex & Boston Street Railway and the Newton & Boston Street Railway, authorizing the Middlesex & Boston Street Railway to issue new capital stock to the amount of \$200,000 par value for the purpose.

**Northampton (Mass.) Street Railway.**—Frederick Harris, Springfield; Joseph H. Skinner, Holyoke; W. S. Loomis, Holyoke, and L. D. Pelissier, Holyoke, have been elected directors of the Northampton Street Railway to succeed J. C. Hammond and J. A. Sullivan, Northampton, and George W. Cook and F. H. Goldthwaite, Springfield. The directors have elected H. M. Tylec, Northampton, president, to succeed J. C. Hammond, and L. D. Pelissier, treasurer, general manager and clerk. Mr. Pelissier, who is treasurer and general manager of the Holyoke Street Railway succeeds H. P. Field, Northampton, as clerk and N. D. Winted as treasurer; E. C. Clark, superintendent, and Richard Skeehan, cashier, are retained in their present offices.

**Railways Company General, Philadelphia, Pa.**—The Railways Company General, which paid a first cash dividend of 10 per cent on Sept. 15, 1909, for the fiscal year ended June 3, 1909, has declared a quarterly dividend of 1 per cent, payable Nov. 1, 1909, to stockholders of record Oct. 20.

**Pittsburgh, McKeesport & Westmoreland Railway, McKeesport, Pa.**—The stockholders of the Pittsburgh, McKeesport & Westmoreland Railway will meet on Oct. 27 to ratify the sale to foreign interests of \$500,000 of the \$1,000,000 treasury bonds of the company, being the unissued portion of the \$2,000,000 of bonds dated 1906.

**Seattle, Renton & Southern Railway, Seattle, Wash.**—E. B. Jones & Company, Philadelphia, Pa., are offering for subscription at prices to net about 5½ per cent \$243,000 first mortgage 5 per cent bonds of the Seattle, Renton & Southern Railway, dated 1908. The total authorized issue is \$1,000,000, of which \$400,000 are reserved for future betterments at not to exceed 70 per cent of the actual cost thereof. Of the total issue \$600,000 is outstanding.

**Second Avenue Railroad, New York, N. Y.**—Charles D. Marvin, president of the Second Avenue Railroad, announces that in view of the proceedings for the foreclosure of the first consolidated mortgage dated 1898 (\$7,000,000 authorized), it is deemed best to reserve the refunding of the \$1,280,000 general (now first) mortgage 5 per cent bonds of 1885 for a comprehensive plan of reorganization, and in the meantime to extend the date of maturity of said bonds to Nov. 1, 1910. Upon presentation of any of said bonds at the Guaranty Trust Company, New York, on or prior to Nov. 15, 1909, they will be stamped to indicate such extension, and there will be affixed interest warrants representing the interest to accrue thereon May 1, 1910, and Nov. 1, 1910, respectively, at the rate of 5 per cent per annum. Any holder who does not desire to extend the date of maturity will receive his principal on or after Nov. 1, 1909, upon surrendering of his bond at the Guaranty Trust Company for purchase in aid of said plan of extension. The interest warrants on said bonds maturing Nov. 1, 1909, will also be paid by the Guaranty Trust Company.

**Southwestern Traction Company, London, Ont.**—The Royal Securities Company, Montreal, in connection with the Electrical Securities Trust, Edinburgh, Scotland, is preparing to purchase the property of the Southwestern Traction Company in the interest of the bondholders. All bondholders were invited to deposit their bonds with the Royal Securities Company or the Bank of Montreal, London, Eng., before Oct. 20.

**United Railways, Portland, Ore.**—On page 886 of the *ELECTRIC RAILWAY JOURNAL* of Oct. 16, 1909, mention was made of the report that control of the United Railways of Portland had passed to new interests. The fact is that J. H. Hulbert, Fontanella, Ia., and C. I. Dunbar, Vancouver, B. C., who were reported to have purchased the property, have taken an option on the securities of the company held by W. D. Hofius, Portland; S. L. Greenough, Missoula, Mont., and Moritz Thompson, president of the company, who control the company through the ownership of a majority of the stock. Mr. Hulbert and Mr. Dunbar are understood to represent interests other than themselves, but no statement has been made as to who the real parties are that are seeking to secure the property or what the proposed plans are.

# Traffic and Transportation

## Crowding Must Be Defined

Alexander R. Mallowny, judge of the Police Court in Washington, D. C., has decided that the general provisions of the Act of Congress approved on May 23, 1908, giving the Interstate Commerce Commission jurisdiction over the street railways in the District of Columbia, are not sufficient as a basis for the prosecution of the local railways in Washington for overcrowding. The judge has sustained a motion to quash an information based on evidence as to overcrowding, but has declined to rule that the act is unconstitutional. The ground was taken by the judge that Congress laid down general principles as to overcrowding of cars, depending upon the Interstate Commerce Commission to adopt rules and regulations which would specify what constitutes overcrowding. Without such regulation, he declared, it was not possible within the meaning of the law to determine what constitutes overcrowding. After quoting Section 16 of the Act of May 23, 1908, in which general requirements for the operation of cars in Washington are stated and power delegated to the Interstate Commerce Commission to require and compel obedience with the provisions of the section and fixing a fine of \$1,000 a day for violation of the provisions of the act, each day to constitute a separate offense, the judge said in his decision:

"Four of the informations charge a violation of the provision, 'in that the defendants did operate and run certain cars over and upon certain streets in said district and in so operating said cars did unlawfully permit a car to be crowded by persons desirous of the use of the same.' The fifth information charges a violation of order of regulation 9 of the Interstate Commerce Commission, 'in that the defendants operated a car equipped with wheels causing unnecessary noises commonly known as flat wheels.' The motion is based chiefly upon two grounds:

"1. Because the act is unconstitutional in that the penalties for disobedience of the section are by fines so enormous as not only to be confiscatory of the property of the defendants, but to intimidate the defendants and its officers from resorting to the courts to test the validity of any of the requirements of said section or of any regulation which may be made by the Interstate Commerce Commission under the provisions thereof.

"2. Because the general language of said section was intended only to announce certain principles to be formulated into specific orders, rules and regulations by said commission, which orders, rules and regulations, when properly made and prescribed, would constitute the provisions of law for the failure to obey which prosecution could be had at the instance of said commission and that the language of the act is so general and indefinite that it cannot itself constitute a rule of conduct or of law.

"The provision under which four of the informations are brought requires the car companies (1) to supply a sufficient number of cars, and (2) to so operate this supply of cars as to give expeditious passage to all persons desirous of the use of said cars without crowding. So even if the defendant did operate its cars without crowding it would still fail to obey the provision if it did not supply and operate a sufficient number of its cars for all persons desirous of the use of the same. Can it be claimed that it was the intention of Congress in using such indefinite terms to announce a rule of law that would subject the defendant or any of its employees to a penalty which might be \$1,000, and make each day's failure to obey the provision a separate offense under a like penalty? How can these car companies, or anyone else, determine the number of persons desirous of using the cars or how many cars to supply and operate for all such persons on times and occasions which must necessarily be in the future and controlled by circumstances impossible of anticipation?

"Take the other provisions of the section: The sufficient number of cars must be 'in good repair'; they must have 'proper and safe power; proper and safe equipment and appliances'; the service must be 'comfortable and convenient.' Is not each of these provisions so general and indefinite as to be incapable of enforcement until some rule or order is made determining the standard of 'good repair,' the standard of 'safe power and equipment' and appliances and some standard of service comfortable and convenient formulated into definite rules of conduct or of law? Consider the only provision in the section that might be said to be definite and enacted with any legal certainty, in that 'the cars are not to exceed 15 m.p.h. within the city limits or 20 m.p.h. in the suburbs. Surely it was not the intention to allow these cars to go through the streets of the city at the rate of 15 m.p.h. without



any regard for the general traffic; but rather that this provision is intended to be simply a declaration on the part of Congress to be regulated and enforced by rules and orders of the Interstate Commerce Commission. This seems to be the view taken by the commission, for otherwise they have done a useless thing in reiterating in their regulation number 4 that 'no street cars shall move at a greater rate of speed than 15 m.p.h. in the city, nor at a greater rate of speed than 20 m.p.h. in the suburbs.' Street cars shall not exceed a rate of speed greater than 6 m.p.h. at street crossings, and in their report to Congress in Public Document H. R. 1336, Sixtieth Congress, Second Session, the commission uses this language:

"The act itself seems to bear intrinsic evidence that it was not the purpose of the Congress to vest such authority in the commission, our power being limited to the making of rules and regulations which shall insure a sufficient number of comfortable and convenient cars and their operation at such speed as to give expeditious passage."

Here the judge refers to the inquiry which the commission conducted into the question of overcrowding, the report on which to Congress was concluded by the commission with these words: "The result of this investigation discloses the fact that in almost every city in this country and abroad, except in France, the question of overcrowding cars is one which the authorities have been endeavoring to solve and remedy, but that, as a matter of fact, despite all laws and regulations, the conditions which cause widespread complaint have not yielded to any solution which has been possible to bring to bear upon the situation."

Continuing, the judge says: "If Congress intended that these provisions were to be treated as separate offenses, why, then, was it necessary for the act to confer power on the commission not only to make rules and orders, but power 'to require and compel obedience' to these very provisions? Does it not seem inconsistent for Congress to make a law to be enforced by a penalty and then say in terms: No, this law need not be obeyed, but we will confer power on a commission to require and compel obedience to it through rules and regulations and annex a penalty which is not to exceed \$1,000 for a violation of any of these rules?"

"I hold, therefore, that in the provisions of this section Congress simply intended to lay down certain general principles which were to be enforced by reasonable rules and regulations of the Interstate Commerce Commission.

"The other ground of the motion brings in question the validity of the statute on account of the penalties. Article 1, section 2, of the Constitution of the United States, provides: 'That all fines shall be moderate and no cruel or unusual punishment shall be inflicted.' Referring to the section—the penalty is a fine of not more than \$1,000. Now, while it may be contended here that an excessive fine might be imposed for a technical violation, it would not be the statute that imposed it, but the court exercising a discretion with power to impose a fine as low as one cent, and if the amount imposed is immoderate and unusual it is the judgment that is void and not the statute.

"The general principle of law fixing the minimum punishment as the basis for testing the constitutionality of the act is clearly stated in Volume 13, *American and English Encyclopedia of Law*, Second Edition, page 60:

"Fines are to be fixed with reference to the objects which they are designed to accomplish and their imposition and regulation belong to the Legislature. The courts cannot with reason or propriety question the action of the Legislature or control or restrain its discretion in the matter of fixing the amount of a fine except where the minimum penalty is so plainly disproportioned to the offense or act which it is imposed as to shock the sense of mankind."

"In *ex parte Young*, 209 U. S. Reports, page 123, the question of the validity of a statute on account of the penalties was passed upon. The State of Minnesota passed an act fixing certain freight charges and made it an offense for any agent or employee of a railroad to charge in excess of these rates under a penalty of imprisonment not exceeding 90 days in jail and by another section of the act fixed a passenger rate at two cents a mile and declared that any railroad company or its employees selling a ticket in excess of this rate was subject to a fine not exceeding \$5,000, or imprisonment not exceeding five years. Justice Peckham in his opinion holding the act invalid said:

"It is urged that there is no principle upon which to base the claim that a person is entitled to disobey a statute at least once, for the purpose of testing its validity, without subjecting himself to the penalties for disobedience provided by the statute in case it is valid. This is not an accurate statement of the case. Ordinarily a law creating offenses in the nature of misdemeanors or felonies relates

to a subject over which the jurisdiction of the Legislature is complete in any event. In the case, however, of the establishment of certain rates without any hearing, the validity of such rates necessarily depends upon whether they are high enough to permit at least some return upon the investment (how much it is not now necessary to state), and an inquiry as to that fact is a proper subject of judicial investigation. If it turns out that the rates are too low for that purpose, then they are illegal. Now, to impose upon a party interested the burden of obtaining a judicial decision of such a question (no prior hearing having ever been given), only upon the condition that if unsuccessful he must suffer imprisonment and pay fines as provided in these acts, is, in effect, to close up all the approaches to the courts, and thus prevent any hearing upon the question whether the rates as provided by the acts are not too low, and therefore invalid. The distinction is obvious between a case where the validity of the act depends upon the existence of a fact which can be determined only after investigation of a very complicated and technical character and the ordinary case of statute upon a subject requiring no such investigation and over which the jurisdiction of the Legislature is complete in any event."

"Now, considering the statute in question in the light of this rule, we have these provisions enforced by certain rules and orders of the Interstate Commerce Commission. The rules and regulations to be valid must be reasonable upon their face and would not depend upon any fact that could only be determined after a judicial investigation of a technical character, but would be the ordinary case of a statute upon a subject which would constitute a rule of conduct plain and clear that these defendants, in the performance of their duty to the general public as common carriers, in obeying need not do acts which must necessarily result in their violation.

"The motion, therefore, to quash the information No. 164,272, charging a violation of a regulation of the commission, on the ground that the act is unconstitutional, is overruled.

"The motion to quash informations Nos. 163,043, 163,945, 163,946 and 163,950, charging a violation of the provision relating to the crowding of cars, is granted."

The Government, through United States District Attorney D. W. Baker, is preparing a bill of exceptions upon which the case will be taken to the Court of Appeals of the District of Columbia, from which an appeal may be taken to the Supreme Court of the United States, as there is a constitutional question involved.

**Elevated Smoking Cars to be Discontinued in Chicago.**—The Chicago & Oak Park Elevated Railroad has announced that it proposes to discontinue the operation of smoking cars on Nov. 1.

**Pay-As-You-Enter Service Soon in Detroit.**—The Detroit (Mich.) United Railways expects soon to place to pay-as-you-enter cars in service on its Woodward Avenue line and is instructing motormen and conductors in the operation of the cars.

**Public Attention Called to Transfer Rules in Atlanta.**—The Georgia Railway & Electric Company, Atlanta, Ga., on Oct. 15, 1909, carried a half-page advertisement in the Atlanta Constitution in which it called the attention of the public to the company's transfer rules.

**Trenton Street Railway Restores Tickets.**—The Trenton (N. J.) Street Railway has restored the six-for-a-quarter tickets, reduced the fare from Trenton to the Interstate Fair Grounds from 10 cents to 5 cents and increased its rush hour service. Strip tickets are again sold on the cars by conductors.

**Ohio Road Will Handle Through Night Freight Cars.**—Arrangements have been completed by the Ohio Electric Railway, Cincinnati, Ohio, to operate through night cars between Toledo and Columbus in order to take care of the increasing freight business. Heretofore all freight has been handled during the day.

**Limited Service on the Cleveland, Southwestern & Columbus Railway.**—Arrangements have been made by the Cleveland, Southwestern & Columbus Railway, Cleveland, Ohio, to operate three limited cars a day each way between Cleveland and Bucyrus. At Bucyrus connection will be made with the Columbus, Marion & Bucyrus Railway for Marion, Delaware and Columbus.

**Proposed Limited Service Over Flint & Saginaw Railway.**—Through limited service over the Flint & Saginaw Railway and the Flint division of the Detroit United Railway will be inaugurated shortly. The details of the schedules remain to be completed, and the schedules probably will not be finally adopted for several weeks. Either three or four limiteds will be run daily each way.



**Suit Against Indiana Companies for Violating Labor Law.**

—On account of complaints filed with the Indiana Railroad Commission charging certain electric railways in Indiana with having repeatedly violated the statute prohibiting, under penalty, trainmen working more than 16 consecutive hours, the commission has directed the Attorney-General to prosecute the companies alleged to have violated the law.

**Device to Compel Reduction in Speed.**—The New York & Queens County Railway Company has been trying for the last three months a device for making motormen slow down in front of car houses, at railway crossings and at other points where the local rules require the cars to slow down. It consists of a conical iron block, 9 in. long, 1 in. in diameter and weighing  $2\frac{1}{2}$  lb. It is designed to be bolted on the trolley wire and is sufficient as an obstruction to the passage of the trolley wheel to throw it off the wire if the car is moving fast. At the same time the trolley wheel will pass over the block when the car runs slowly.

**A Reduction in Fare on Westchester Electric Railroad.**—It was announced at a hearing before Commissioner Eustis of the Public Service Commission of the First District of New York on Oct. 15 that the Westchester Electric Railroad would cease charging two fares within the city limits. The company runs cars from the 177th Street station of the Lenox Avenue branch of the New York subway through White Plains Avenue to Larchmont. A second fare was charged at 233d Street, New York, going either way, on the Larchmont cars. The company insisted it did not come within the statutory provision forbidding the charging of more than 5 cents within the limits of a city, because the cars of this line run over the tracks of the Union Railway for a part of the route. It also was urged that cars bound for Mount Vernon did carry passengers to the city for 5 cents.

**Folder of Ohio Valley Scenic Route.**—A folder entitled "Ohio Valley Scenic Route" has just been issued by the Ohio River Passenger Railroad, East Liverpool Traction & Light Company and the Steubenville & East Liverpool Railway & Light Company, East Liverpool, Ohio. It gives the location of towns served, a schedule of the service over the lines, the electric railway and steam railroad connections, and contains a large map of the lines of the East Liverpool Traction & Light Company and the connecting electric railways between Pittsburgh and Wheeling and in the Upper Ohio Valley and the Lake Erie regions. The territory through which the companies operate is described, and some excellent half-tone illustrations accompany the text. Two of these are quite notable. One is of the skyline of Pittsburgh, with the office buildings in the business center of the city, and the Monongahela River; the other is a bird's-eye view of Steubenville.

**Coney Island & Brooklyn Railroad Celebration Traffic.**—A record of the passengers carried by the Coney Island & Brooklyn Railroad by days during the Hudson-Fulton celebration follows: Sept. 25, 108,178; Sept. 26, 79,712; Sept. 27, 94,044; Sept. 28, 93,792; Sept. 29, 98,089; Sept. 30, 101,146; Oct. 1, 125,456; Oct. 2, 104,600. Thus the total of passengers carried for this period by the Coney Island & Brooklyn Railroad was 805,017. In the *ELECTRIC RAILWAY JOURNAL* of Oct. 16, 1909, page 887, the record of passengers carried by days for the period from Sept. 25 to Oct. 2, inclusive, on the lines of the Interborough Rapid Transit Company, Metropolitan Street Railway and the Third Avenue Railroad was published. The total of passengers carried by the Brooklyn Rapid Transit Company was also published. Including the total of passengers carried by the Coney Island & Brooklyn Railroad for the period mentioned with the totals of the other companies gives the grand total of 44,321,821 passengers carried on the street railways in the boroughs of Manhattan, the Bronx and Brooklyn during the celebration.

**Petition for Reduction of Fare Refused in Massachusetts.**

—The Massachusetts Railroad Commission has issued an order in favor of the Boston & Northern Street Railway in the petition of the Selectmen of Peabody, Mass., for a reduction in fare between Peabody Square and Salem Willows. The board says, in part: "The petitioners allege that the established fare of 10 cents for a single ride in either direction between Peabody Square and Salem Willows is excessive and unreasonable, and pray that it be reduced to 5 cents. The fare between Peabody Square and other parts of Peabody to and from Town House Square, Salem, is 5 cents, and the fare to the end of the Salem Willows line, which serves as a line for the summer travel to and from the pleasure resort known as Salem Willows, is an additional 5 cents. The riding on this line during the summer months is considerable, but during the rest of the year the travel is extremely light. \* \* \* Investigation of the

situation convinces us that the fare complained of, taken in connection with the fares between other points upon the system of this company, is neither unreasonable nor excessive. The reduction petitioned for, if granted, would result in the lines between Peabody and Town House Square, Salem, maintaining the burden of carrying for a free transfer the passengers from Town House Square to Salem Willows. The line from the Willows to Town House Square, Salem, ought also to return its due proportion of the receipts for passengers carried over it, and should not be called upon to render a free service for Peabody passengers. For the foregoing reasons the petition must be dismissed."

**Greeting to St. Louis Employees.**—Robert McCulloch, president and general manager of the United Railways, St. Louis, Mo., addressed the following communication to the employees of the company just prior to the beginning of the Centennial festivities in St. Louis which continued during the week commencing Oct. 3: "During the week beginning Sunday, Oct. 3, 1909, our good city of St. Louis will be on dress parade before the world. We have invited everybody to come and see what a great city we have. To our visitors the city will stand before them in its people and its business institutions, and of all the integral parts that go to make the city ours is the largest and most important and most potent in each day's doings. When our wheels start the work of the day for the city begins, and unless our wheels start promptly and move without friction the designs on the day's trestle-board are all marred and there is confusion in every craft. The visitor will look for us first of all others when he arrives, he will depend on us to carry him safely and pleasantly from place to place during his entire stay, and when he bids the city farewell our portals will be the last through which he passes. This gives some inkling of our importance during this gala week, and it is incumbent on us to acquit ourselves not only creditably but most creditably. No man must sleep on his post or think of himself in that week. Our pride in the city must stimulate us to endure the never-ceasing work that confronts us every hour of all the time. To the visitor the railroad consists only of the car and the two men who operate it. If the car is clean and comfortable and carries him safely and promptly, and if the conductor and motorman are attentive, careful, polite, patient and civil, this visitor goes away with favorable impressions of the city's most important institution. In creating this impression we are only doing our duty. We are public servants and can make no claim to virtue for duty well performed, but dereliction should damn us."

**Increase in Fare Unit on Hartford & Springfield Street Railway.**

—The Hartford & Springfield Street Railway, Warehouse Point, Conn., has announced to the traveling public an increase in the fare unit over its lines from 5 cents to 6 cents, to take effect on Nov. 1, 1909. A statement issued to the public under date of Oct. 18, 1909, and signed by Francis R. Cooley, Thomas C. Perkins and Chauncy Eldridge, executive committee, gives the reasons for the change. The Hartford & Springfield Street Railway consists of 45 miles of interurban railway, connecting the Hartford (Conn.) Street Railway and the Springfield (Mass.) Street Railway on both the east and west side of the Connecticut River, with branches from Warehouse Point to Rockville, Thompsonville and Somers. The total receipts of the company, as well as the cost of operation, in comparison with other street railways in Connecticut, are shown for the year ending June 30, 1908, and a list of 15 street railways which have recently found it necessary to increase their fares is published. The statement is made that there are three roads in Connecticut which have less income per mile of track operated than the Hartford & Springfield Street Railway. They are the Norwich & Westerly Street Railway, now in the hands of a receiver; the Providence & Danielson Street Railway, which has never earned the interest on its bonds, and the New London & East Lime Street Railway, which is barely coming out even. On the other hand, whereas the Hartford & Springfield Street Railway has total receipts of a trifle more than \$4,000 per mile of track operated, the Connecticut Company shows earnings of more than \$8,000 per mile, the Danbury & Bethel Street Railway more than \$8,000 per mile, and the Bristol & Plainville Tramway more than \$6,000. It is cited that for the year ended June 30, 1908, according to the sworn report furnished the Railroad Commission, the Hartford & Springfield Street Railway, after paying its operating expenses, taxes and interest on bonds, had left a little more than \$1,800 applicable to dividends and surplus. The statement is concluded to the effect that the company believes that the public would prefer to have good service, good cars, well kept up, and a 6-cent fare rather than pay 5 cents for an unsatisfactory service.



## Personal Mention

**Mr. H. E. Tilley** has been elected president of the Northampton (Mass.) Street Railway to succeed Mr. J. C. Hammond, resigned.

**Mr. J. C. Hammond** has resigned as president of the Northampton (Mass.) Street Railway and is succeeded by Mr. H. E. Tilley.

**Mr. A. L. White**, second vice-president of the Spokane & Inland Empire Railroad, Spokane, Wash., has been elected first vice-president of the company.

**Mr. C. B. Fairchild, Jr.**, formerly editor of *Electric Traction Weekly*, Chicago, Ill., has become associated with the Chicago (Ill.) City Railway.

**Mr. R. W. Edwards** has resigned as trainmaster of the Oregon Water Power division of the Portland Railway, Light & Power Company, Portland, Ore., to become a trainmaster with the Missouri Pacific Railroad at Kansas City, Mo.

**Mr. J. F. Roach**, chief dispatcher of the Oregon Water Power division of the Portland Railway, Light & Power Company, Portland, Ore., has been appointed trainmaster of the company to succeed Mr. R. W. Edwards, resigned, and will hereafter act as chief dispatcher and trainmaster of this division of the company.

**Mr. Bion J. Arnold** has been selected as a member of the committee of engineers to be retained by the Pittsburgh Civic Commission to assist that body in preparing plans for Greater Pittsburgh. Mr. Arnold will report on the railroad terminal facilities with a view to meeting the increasing tonnage, and will also report on the city transit facilities with special reference to the possibilities for the construction of subways. Mr. Arnold's associates on the board will be Mr. John R. Freeman, Providence, R. I., hydraulic engineer and authority on water supply, sewage disposal and harbor construction, and Mr. Frederick Law Olmstead, Boston, Mass., a noted park and street designer and an expert on housing conditions.

**Mr. Waldo G. Paine**, traffic manager of the Spokane & Inland Empire Railroad, Spokane, Wash., has been elected second vice-president of the company, and will continue to act as traffic manager. Mr. Paine was one of the original incorporators of the Coeur d'Alene & Spokane Railway, which was merged into the Inland Empire System in 1906, and was traffic manager of the Coeur d'Alene & Spokane Railway. He became general passenger agent of the Spokane & Inland Empire Railroad in 1905. Following the resignation of Mr. J. H. Lathrop as general freight agent of the company on Nov. 1, 1908, the freight and passenger departments of the company were merged and Mr. Paine was appointed traffic manager.

**Mr. A. G. H. Jenssen** has been appointed district passenger and freight agent of the Ohio Electric Railway at Toledo, Ohio, in charge of this department on the Lima-Toledo division, Ottawa and north, vice Mr. G. F. Hosbury, resigned. Mr. Jenssen was born in Toledo, Ohio, on July 5, 1872. He entered business on July 7, 1887, as a messenger in the division freight office of the Wabash Railroad at Toledo, and held successively the positions of clerk, assistant rate clerk and rate and tariff clerk, and in September, 1898, was appointed city contracting and traveling freight agent. Mr. Jenssen resigned from the Wabash Railroad in April, 1907, to become traffic manager for the F. Bissel Company, Toledo, Ohio. In March, 1908, he resigned from the F. Bissel Company and accepted an appointment as salesman of the Monarch Manufacturing Company, Toledo, Ohio, for Ohio.

**Mr. John J. Lane**, secretary of the New England Street Railway Club, and Mrs. Lane celebrated their silver wedding anniversary at Everett, Mass., on Oct. 16. The Rev. Lewis Malvern, Lynn, Mass., who officiated at the marriage of Mr. and Mrs. Lane in Laconia, N. H., 25 years ago, presented Mr. and Mrs. Lane with a twenty-fifth anniversary certificate. The ushers at the anniversary were Mr. William D. Wright, president of the New England Street Railway Club; Mr. Edwin C. Beers, Everett; Mr. George E. Hunt, chairman of the Everett School Board, and Mr. Frank J. Stone, Boston. After being received by Mr. and Mrs. Lane, the guests were entertained by a committee, comprising Mr. and Mrs. John R. Dexter, Mrs. E. C. Beers, Mr. and Mrs. George E. Hunt, Mr. and Mrs. John G. Cox, Mrs. Frank H. Gardner, Mr. and Mrs. Waldo S. Hadley, Everett; Mr. and Mrs. Charles H. Hile, Boston; Mr. and Mrs. W. D. Wright, Providence; Mr. and Mrs. Franklin Woodman, Haverhill; Mr. J. H. Neal, Boston; Mr. and Mrs. C. E. Learned, Wakefield, and Mrs. Fronia E. Clement, Tilton, N. H.

## Construction News

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

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

### RECENT INCORPORATIONS

**San Diego, El Cajon & Escondido Railway, San Diego, Cal.**—Incorporated to build an electric railway to connect San Diego, La Mesa, El Cajon, Bostonia, Lakeside, Morton, San Pasquel, Bernardo and Escondido, 65 miles distant. Surveys have been completed. Headquarters, San Diego. Capital stock, \$2,500,000. Incorporators: G. W. Pursell, H. G. Crowe and A. C. Riordon, San Diego; W. L. Ramey and C. O'Kelly, Escondido, and William Stell and C. O. Nichols, El Cajon. [E. R. J., Sept. 25, '09.]

**\*Pueblo & San Luis Valley Railroad & Power Company, Pueblo, Col.**—Incorporated to build an electric railway from Pueblo across the Sangre de Christo Mountains, into Costilla County, where an interurban system will be established to connect Alamosa, Del Norte, South Forke, Center, Saguache, Moffat, Hooper, Mosca, Blanca, La Jara, Sanford, Manassa, Antonito and Capulin, all in the San Luis Valley. Capital stock, \$8,000,000. Incorporators: J. L. Hurt, Center; C. L. Smith, La Jara; John I. Palmer, Saguache; D. H. Sullivan, Alamosa; John Ewing, Jr., Del Norte, and Jas. A. Kelly, Monte Vista.

**\*Elizabethtown (N. Y.) Railway.**—Incorporated to build an electric railway in Essex County from Elizabethtown to Westport, 8 miles distant. Capital stock, \$80,000. Incorporators: Richard L. Hand, Francis A. Smith and Geo. W. Jenkins, all of Elizabethtown.

**\*Waynesburg & Blacksville Street Railway, Waynesburg, Pa.**—Incorporated to build an electric railway from the Pennsylvania and West Virginia State line at Robert's Run along the Roberts and Smith Creeks, 14 miles to Waynesburg. Capital stock, \$84,000. Incorporators: Samuel Eakin, Wadestown, W. Va., president; L. L. Thomas, R. E. Lent, M. B. Patterson and Chas. H. King.

**Chicago & Wisconsin Valley Railway, Madison, Wis.**—Incorporated to construct an electric railway from Janesville to Merrill connecting Stoughton, Madison, Portage, Friendship, Grand Rapids, Stevens Point, Wausau and Lodi. The company will conduct a passenger and freight business. Capital stock, \$40,000, preliminary. Incorporators: E. G. Frost, president; J. W. Powers, first vice-president; J. P. Barnes, A. J. Bermeyer, J. E. Jones, F. G. Tynoll, A. J. Baskerville, and A. P. Russell. [E. R. J., Oct. 16, '09.]

### FRANCHISES

**Nelson, B. C.**—The City Council has passed the by-law guaranteeing the bonds of the Nelson Electric Tramway Company. It is expected that the system will be in operation by January, and that an extension will be built next year.

**Fresno, Cal.**—The Fresno Traction Company has asked the Board of Supervisors to grant a franchise permitting the construction of an electric railway on First Street, from Tulare Avenue to Kern Avenue. Bids for the franchise will be opened on Nov. 11.

**Oakland, Cal.**—The Peninsular Railway, San José, has applied to the City Council for a franchise to extend its electric railway northerly on Franklin Street to Twenty-second Street. Oakland. J. T. Burke is interested.

**Vallejo, Cal.**—The City Trustees have authorized that an ordinance be prepared annulling the franchises and rights of way held by the Vallejo & Northern Electric Railway in Vallejo. T. T. C. Gregory, president. [E. R. J., Aug. 21, '09.]

**Indianapolis, Ind.**—The Shore Line Traction Company has applied to the Commissioners of Marion County for a franchise to construct an electric railway from Beach Grove northwest to Indianapolis, 8 miles distant, along the Churchman's Pike. Jos. F. Weber, F. T. Edenharter and Geo. F. Mull, Indianapolis, are said to be interested. [E. R. J., May 8, '09.]

**Camden, N. J.**—The City Council has granted a franchise to the Delaware Tunnel Railroad to enter its rapid transit railway into Camden. The proposed railway will extend from Philadelphia, Pa., to Camden under the Delaware River. William A. Stern, 605 Land Title Building, Philadelphia, president. [E. R. J., March 27, '09.]

**Lancaster, Ohio.**—The Lancaster Traction & Power Company has applied to the City Council for a franchise giving the right to construct a street railway upon certain streets of Lancaster. Bids will be received up to Nov. 8 and the franchise sold to the highest bidder.



**Hamilton, Ont.**—The Hamilton, Waterloo & Guelph Railway has applied to the City Council for a year extension of its franchise in which to complete its railway. John Patterson, general manager.

**Beaver Falls, Pa.**—The New Castle & Beaver Valley Street Railways has applied to the City Council for a franchise to build an electric railway in Beaver Falls. The company also intends to erect a power plant. The railway is to extend from New Castle to Beaver Falls. Robert W. Cunningham and Stewart S. Neff are interested. [E. R. J., Oct. 16, '09.]

**Pasco, Wash.**—The Walla Walla Valley Traction Company has applied to the Board of Commissioners for a franchise to construct its railway in the Riverside Addition and on Ainsworth Avenue, besides outside the city limits. The company intends to build an extension from Walla Walla to Pasco, for which it is making surveys. The hearing of this application will be held Nov. 10.

**Charleston, W. Va.**—The City Council has granted a franchise to the Kanawha Valley Traction Company to extend its street railway on Russell Street, so as to connect its present lines on the West Side with the bridge of the Kanawha Bridge & Terminal Company at Seventh Street. J. C. Rockwell, Charleston, superintendent.

**Wheeling, W. Va.**—The acceptance of the City & Elm Grove Railroad has been adopted by the County Commissioners, granting the company the right to construct the proposed Park View extension.

**La Crosse, Wis.**—W. J. Ferris, president of the La Crosse Water Power Company, will apply to the City Council for franchises to enter La Crosse with an interurban electric railway to run from Winona, Minn., to Sparta, Wis., via La Crosse. The railway will cost about \$3,000,000.

**Milwaukee, Wis.**—The Milwaukee Electric Railway & Light Company has applied to the City Council for franchises to extend its system over certain streets and avenues of Milwaukee. John I. Beggs, president.

#### TRACK AND ROADWAY

**California Midland Railroad, San Francisco, Cal.**—It is announced that construction on this electric railway will be resumed within 60 days. The company recently gave Yuba County about \$15,000 to be used in strengthening the Yuba River levee, on which its tracks will be laid. This track will be built first, starting from Marysville. The railway is surveyed, and rights of way purchased for the entire distance between Marysville and Spenceville, and from there in two branches, one to Grass Valley and the other to Auburn. In Grass Valley it will connect with the Nevada County Traction Company to Nevada City. John Martin, 708 Alaska Commercial Building, San Francisco, president.

**Vallejo & Northern Electric Railway, Vallejo, Cal.**—It is announced that this company, which proposes to build an electric railway from Vallejo to Sacramento, connecting Cordelia, Suisun, Vacaville and Woodland, has commenced grading on the Willotta ranch in Suisun Valley. The estimate cost of construction is \$6,500,000. T. T. C. Gregory, Suisun, Cal., president. [E. R. J., Aug. 21, '09.]

**Meriden, Middletown & Guilford Railway, Hartford, Conn.**—It is reported that this company has commenced construction at Middlefield, on its proposed electric railway from Meriden to Guilford via Middletown, a distance of 20 miles. Francis Atwater, Meriden, president. [E. R. J., Aug. 14, '09.]

**Westchester & Wilmington Electric Railway, Wilmington, Del.**—This company announces that it will start construction on the railway between the two cities by Nov. 1. The railway will be 14 miles long, and eight cars operated. Officers: Thos. E. O'Connell, president; C. E. Faucett, secretary and treasurer, and St. George H. Cooke, general manager, purchasing agent and electrical engineer. [E. R. J., Sept. 18, '09.]

**Central Florida Traction Company, Orlando, Fla.**—L. L. Payer, secretary, announces that the present organization of the Central Florida Traction Company is temporary only. Officers: M. O. Oberstreet, president; J. H. Smith, vice-president, and W. A. Smith, treasurer. The railway will extend 45 miles from Kissimmee to Sanford via Orlando. [E. R. J., Aug. 7, '09.]

**Chicago, Blue Island & Joliet Traction Company, Chicago, Ill.**—It is stated that construction has been started between Blue Island and Mokena on this 6-mile electric railway from Chicago to Oak Park. This railway is intended to connect the Chicago & Southern Traction Company at Blue Island with the Joliet & Southern Traction Company at Mokena. W. H. Conrad, 1145 First National Bank Building, Chicago.

**Mount Vernon, Ill.**—It is reported that Albert J. Davis, St. Louis, Mo., and associates will build an electric railway from Mount Vernon, Ill., to a point on the Mississippi River above Chester by way of Winkle, a distance of 83 miles.

**Murphysboro & Southern Railway, Murphysboro, Ill.**—This company writes that it is constructing an electric railway from Murphysboro to Carbondale, of which 1½ miles are in operation. The company is at present operating four cars. The power station and shops are located at Murphysboro. According to the company's franchise, power for lighting, heating, etc., may be furnished. Capital stock, \$250,000. Officers: A. B. Minton, president; C. H. Clay, vice-president; W. C. Alexander, secretary, and J. C. Hardy, treasurer. [E. R. J., Oct. 9, '09.]

**Plano, Ill.**—John B. Newhall, Cincinnati, Ohio, representing financiers of that city, is said to be promoting a plan to build an electric railway from Sandwich to Plano, Bristol, Yorkville, Oswego and Aurora. O. G. Lawbaugh, C. A. Darnell and Seth Parsons, Plano, have been engaged to procure franchises in Sandwich and Plano, and the right of way for the proposed line. Ivan L. Smith, Kendall County, has been employed to make the preliminary surveys.

**Waukegan, Rockford & Elgin Traction Company, Waukegan, Ill.**—Robert D. Wynn, vice-president and general manager of this company, is said to have announced that the Central Engineering & Construction Company, Chicago, has decided to undertake the construction of this electric railway from Waukegan to Woodstock, Marengo, Rockford, Belvidere, Elgin, Antioch and Millarn, next year, and would place the bonds at once. Plans and details will be completed during the winter. John D. Pope, Waukegan, is also said to be interested. [E. R. J., Jan. 30, '09.]

**Capital Circuit Traction Company, Indianapolis, Ind.**—The right-of-way for this electric railway connecting Greensfield, Fortville, Noolesville, Sheridan, Lebanon, Advance, Jamestown, North Salem, Danville, Clayton, Hall, Martinville, Trafalgar, Franklin, Marietta, Shelbyville and Fountaintown, has been practically secured, and the survey has been completed. The company expects to place contracts as soon as necessary money is secured. J. N. Crabb, 1019 Law Building, Indianapolis, president. [E. R. J., Feb. 20, '09.]

**Indiana North-Western Traction Company, Monticello, Ind.**—This company is said to be making locations on its proposed railway from Lafayette to Hammond via Logansport and Monticello. W. F. Brucker, Monticello, secretary. [E. R. J., Sept. 18, '09.]

**Louisville, Blue River & French Lick Traction Company, New Albany, Ind.**—It is stated that this company has started the survey of this proposed electric railway between New Albany and French Lick Springs. J. H. Faucett is said to be interested. [E. R. J., Oct. 16, '09.]

**South Bend & Logansport Traction Company, South Bend, Ind.**—This company recently incorporated to build an interurban railway from South Bend to Logansport, Ind., has closed a contract with the Indiana & Michigan Electric Company, South Bend, for \$10,000 worth of wiring work and supplies. Other contracts will be closed in a few days. The company has opened up a branch office in the American Trust Building. The present general offices in the Exchange Block will be continued. P. J. Haulihan is interested. [E. R. J., Sept. 25, '09.]

**Wabash & Northern Indiana Traction Company, Warsaw, Ind.**—It is announced that work will be begun immediately on this electric railway from Wabash to Warsaw as a result of the voting of subsidies in the townships of Wabash and Kosciusko, which amounted to \$57,500. The route from North Manchester to Liberty Mills, Sydney and Packerton will be chosen instead of the route through Clay Township, which refused to vote a subsidy. The Bethlehem Steel Works will furnish rails, which will be 70-lb., and The J. G. Brill Company, Philadelphia, will furnish the rolling stock. The franchise in Warsaw calls for the construction of 5 miles of railway this year and for the completion of the railway by July 15, 1910. J. A. Barry is said to be interested. [E. R. J., July 17, '09.]

**Davenport & Manchester Interurban Railway, Davenport, Ia.**—At a meeting of the stockholders of this company in Davenport on Oct. 5, a resolution was made to accept the proposition of F. J. Cross, Monticello, to construct the railway from Monticello to Manchester, a distance of 26 miles. The proposition provided that the railway will not be capitalized at more than \$24,000 per mile on that section, and of this Mr. Cross should receive \$14,000 in stock and \$16,000 in bonds. Under these conditions he agreed to build the line using 70-lb. rails, and equipping the railway with two gasoline motor cars, one of 40 hp for passenger service, and one of 200 hp for freight service. This proposition will be subjected to the approval of the Executive



Council, before it is possible to proceed with construction. It was suggested that the proposition be made to cover the entire route from Manchester to Davenport, and Mr. Cross agreed to make this change. F. W. Rank, Moline, Ill., secretary. [E. R. J., Sept. 11, '09.]

**Des Moines & Sioux City Railroad, Des Moines, Ia.**—This company is said to have awarded the contract for constructing the proposed electric railway from Des Moines to Sioux City, via Adel and Perry, a distance of 196 miles, to the American National Corporation, Indianapolis, Ind. The contract calls for completion by Dec. 30, 1910. The company has secured its terminal site and trackage area in Des Moines. Office, 200 Youngerman Block, Des Moines. Officers: John P. O'Malley, Perry, president; W. H. Miller, Fort Dodge, vice-president and general manager; J. W. Doran, Beaver, second vice-president; E. D. Carter, Berkeley, secretary, and J. W. Russell, Adell, treasurer. [E. R. J., Sept. 25, '09.]

**Red Oak & Northeastern Railway, Red Oak, Ia.**—The final survey of this electric railway from Red Oak through Greenfield to Des Moines, a distance of 110 miles, has been started at Grant Township. H. H. Von Hippel, engineer. [E. R. J., Sept. 18, '09.]

**Interstate Railway, Kansas City, Mo.**—The construction of this electric railway from Kansas City to St. Joseph has been started about 2½ miles south of St. Joseph. The Electric Traction Company, Commerce Building, Kansas City, is in charge of construction, and N. C. Van Natta, Corley Building, St. Joseph, engineer. [E. R. J., Oct. 2, '09.]

**Jersey Central Traction Company, Keyport, N. J.**—This company has awarded the contract for constructing its proposed extension through South Amboy to Perth Amboy, 2½ miles, to the General Contracting & Engineering Company, 50 Church Street, New York, N. Y. Surveys and right-of-way have been completed. H. C. Todd, Keyport, chief engineer.

**\*Dundee (N. Y.) Electric Lighting Plant.**—This company will construct, next year, a 4-mile narrow-gage electric railway from Dundee to Starkey Station on the Pennsylvania system of the Northern Central Railroad and also to Starkey Point on Seneca Lake, to connect with the steamers for Geneva, Watkins Glen, etc. The company will use the 50-lb. rails for construction. A. J. Pierce, Dundee, chief engineer.

**\*Hendersonville Light & Power Company, Hendersonville, N. C.**—This company advises that it will construct 4½ miles of electric railway from Hendersonville to Parceola Lake. The company has issued \$100,000 in bonds for the construction. C. H. Broward, superintendent.

**Piedmont Street Railway, Salisbury, N. C.**—This company has awarded the contract for the grading of this electric railway in Concord to W. A. Foil, Concord. The railway will extend from Salisbury to Concord via China Grove and Landis. T. H. Vanderford is said to be interested. [E. R. J., July 10, '09.]

**Fostoria & Fremont Railway, Fostoria, Ohio.**—The directors of this company have chosen the following officers: F. D. Carpenter, Lima, president; J. H. Goeke, vice-president, and J. D. McDonel, secretary and treasurer. Capital stock, common, \$150,000; preferred, \$150,000; bonds issued amounting to \$250,000. The railway will be built from Fostoria to Fremont and will connect the Lake Shore Electric Railway and the Western Ohio Railway. [E. R. J., Oct. 9, '09.]

**Juniata Valley Electric Street Railway, Huntingdon, Pa.**—This company expects to build 51 miles of railway connecting Huntingdon with Lewistown and Mt. Union with Huntingdon. The company will have at least two large parks. The Juniata Valley Electric Street Railway, the Juniata Valley Street Railway and the Big Valley Railway have all merged under the name of the Huntingdon, Lewis-town & Juniata Valley Traction Company.

**Rhode Island Company, Providence, R. I.**—This company has commenced an extension of 5500 ft. to its Grey-stone division, which will make Enfield, R. I., the terminus.

**Gallitin, Tenn.**—C. H. Fidler, Gallitin, is said to be promoting a 12-mile electric railway from Gallitin to Beck-with. Preliminary surveys have been made.

**Corpus Christi, Tex.**—Survey for the proposed electric railway in Corpus Christi has been started and construction will begin at once. Daniel Hewitt, Salina, Kan., is said to be interested. [E. R. J., Oct. 2, '09.]

**Glen Rose & Walnut Springs Railway, Glen Rose, Tex.**—J. H. Farr, vice-president and general manager, writes that this company desires to purchase 14 miles of new or second-hand relaying 56-lb. to 60-lb. rails for constructing its railway from Glen Rose to Walnut Springs. The company began grading on Oct. 7, and expects to operate gaso-

line motor cars. Capital stock, \$100,000. Officers: John C. Leese, president; F. E. Johnson, secretary; John Shields, treasurer, and F. M. Simpson, Oak Cliff, chief engineer. [E. R. J., Oct. 16, '09.]

**Fort Worth, Mineral Wells & Western Railroad, Fort Worth, Tex.**—At a mass meeting in Mineral Wells the proposition of this company to build its electric railway into Mineral Wells for a bonus of \$60,000, terminal site and right of way, was accepted. The company will make a proposition before the Fort Worth Board of Trade, asking for a bonus of \$125,000, terminal site and right of way. L. C. Cole, Fort Worth, is said to be interested. [E. R. J., Oct. 2, '09.]

**Grafton (W. Va.) Traction Company.**—This company expects to build a 3-mile extension next year, and also a bridge across Tygart Valley River, so as to extend the railway to the west side of Grafton, and from there to Grafton Park, a distance of 2 miles. G. L. Hartley, superintendent.

**Chicago & Wisconsin Valley Railway, Madison, Wis.**—It is reported that this company recently incorporated to build an electric railway from Janesville to Merrill will let the contract for construction to the Western Indiana Construction Company, Madison and Portage, Wis. Surveys will be started at once, at Portage. Allen P. Russell, Baltimore, Md., chief engineer. [E. R. J., Oct. 16, '09.]

#### SHOPS AND BUILDINGS

**British Columbia Electric Railway, New Westminster, B. C.**—This company is said to plan the construction of a new station in New Westminster. The building, which will be the terminus for the Fraser Valley division, will have the ground floor finished with marble. The upper stories, the structure consisting of three stories, at first, and five stories, later, are to be used for offices.

**Northern Electric Railway, Chico, Cal.**—This company plans to lay out a freight yard at the rear of Armory Hall, Marysville, between Second, Third, Willow and Orange Streets. A freight house and office will be erected and sidetracks and spurs will be laid. The company has applied for permission to the Marysville Council.

**Atlantic & Suburban Railway, Pleasantville, N. J.**—This company is building a two-story brick office building and terminal station at Pleasantville. The building, which is about completed, will cost \$3,000.

**Scioto Valley Traction Company, Columbus, Ohio.**—This company expects to build a new storehouse in Columbus. R. Fullerton, purchasing agent.

**Portland General Electric Company, Salem, Ore.**—This company is planning to build a car house at Front Street and Shemeketa Street, Portland. The building is estimated to cost \$20,000.

**Dominion Power & Transmission Company, Hamilton, Ont.**—This company has prepared plans for a one-story concrete inspection and storage shed, 96 ft. x 150 ft., to be erected at Sanford Avenue and King Street. The building will cost approximately \$25,000.

**Toronto (Ont.) Railway.**—This company has a permit to erect car houses on Landsdowne Avenue near Lappin Avenue. The buildings will cost approximately \$60,000. James Gunn, superintendent.

#### POWER HOUSES AND SUBSTATIONS

**Southern Pacific Railroad, Los Angeles, Cal.**—This company has awarded the contract for completing its power station, that is being erected on the tidal canal between Park Street and Fruitvale Avenue, Alameda, to F. P. Fisher, Alameda. His bid to finish the plant was \$127,000. The contract calls for the construction of the walls, the roof and the finishing of the interior of the structure. The steel frame of the building is already in place and considerable of the machinery to go into the plant has been installed.

**Georgia Railway & Light Company, Atlanta, Ga.**—It is stated that this company is building a substation in the basement of its office building at Walton and Fairlie Streets, which will have a capacity of 1500 hp. This will cost approximately \$25,000. The company will also spend \$25,000 for a new motor-generator set being installed in its Davis Street station, which will furnish power for the Hapville extension.

**Hendersonville Light & Power Company, Hendersonville, N. C.**—This company plans to add a 1300-kw Terry turbine and 300-hp boilers to its equipment. The addition is to be used for generating power for the proposed electric railway to Parceola Lake. C. H. Broward, superintendent.

**Scioto Valley Traction Company, Columbus, Ohio.**—This company has purchased two 250-hp boilers and two automatic stokers.



# Manufactures & Supplies

## ROLLING STOCK

**Grafton (W. Va.) Traction Company** expects to buy two cars for summer traffic.

**Port Arthur (Ont.) Electric Street Railway** will soon purchase several more cars.

**C. G. Nichols, Greenwood, Miss.**, it is reported, is in the market for gasoline motor cars.

**Helena (Ark.) Gas Company** is making inquiries for gasoline motor cars for street railway and interurban service.

**Union Electric Company, Dubuque, Ia.**, has ordered five 21-ft. pay-as-you-enter cars from the Danville Car Company.

**Glen Rose & Walnut Springs Railway, Glen Rose, Tex.**, a proposed electric railway, desires to purchase gasoline motor cars. J. H. Farr, general manager.

**Muskogee (Okla.) Electric Traction Company** is having six cars, 21 ft. long, built by the Danville Car Company. They will be of the pay-as-you-enter type.

**Mount McKay & Kakabeka Falls Railway, Fort William, Ont.**, will, as reported in the *ELECTRIC RAILWAY JOURNAL* of March 20, 1909, purchase several new cars.

**Wabash & Northern Indiana Traction Company, Warsaw, Ind.**, an electric railway under construction, will have its rolling stock furnished by The J. G. Brill Company.

**Peoria (Ill.) Railway Terminal Company** expects to purchase five interurban cars and one snow plow and sprinkler, as mentioned previously in the *ELECTRIC RAILWAY JOURNAL*, within the next three months.

**Penn Yan, Keuka Park & Branchport Railway, Penn Yan, N. Y.**, has purchased one set of double freight trucks from the Taylor Electric Truck Company and one Westinghouse A. M. S. airbrake equipment.

**Atlantic & Suburban Railway, Pleasantville, N. J.**, has just placed in service one 40,000-lb. capacity construction car built by The J. G. Brill Company. Four Westinghouse 101-B2 motors and K-28B controllers are used.

**Indianapolis, New Castle & Toledo Electric Railway, New Castle, Ind.**, has purchased a number of cars from the Jewett Car Company, motors from the General Electric Company and trucks from the Baldwin Locomotive Works.

**Bloomington & Normal Railway & Light Company, Bloomington, Ill.**, has purchased three 30-ft. pay-as-you-enter cars from the Danville Car Company. Brill 21-E trucks, four G.E.-80 motors and K-28 controllers were specified.

**Oklahoma Railway, Oklahoma City, Okla.**, mentioned in the *ELECTRIC RAILWAY JOURNAL* of Sept. 11, 1909, as contemplating the purchase of eight combination cars, has ordered three 54-ft. interurban cars from the Niles Car & Manufacturing Company, Niles, Ohio, and is also building two steel combination locomotive work cars.

**Chicago (Ill.) City Railway** has drawn up the following details on the 50 pay-as-you-enter cars reported in the *ELECTRIC RAILWAY JOURNAL* of Oct. 2, 1909, as being built by The J. G. Brill Company:

Seating capacity.....40	Motors.....Four GE-80
Length of body.....32 ft.	Paint.....Sherwin-Williams
Length over bumpers...46 ft.	Push button signal,
Width over all at guard	Consolidated
rails.....8 ft. 6 in.	Registers.....International
Sill to trolley base...11 ft. 9 in.	Sanders.....Nichols-Lintern
Height, rail to sill...11 ft. 9 in.	Seats.....Hale & Kilburn
Body.....Composite	Seating material.....rattan
Interior trim.....cherry	Side bearings.....Wood's gravity
Underframe.....metal	Step treads.....Mason Safety
Air brakes...Allis-Chalmers	Trolley retrievers.....Earl
Bolsters, body..Carbon steel	Trolley base.....U. S. 14
Bumpers.....Channel	Trucks.....Brill No. 27-F
Center bearings...Symington	Varnish..Chicago and Beck-
Control system.....K-35-C	with-Chandler
Curtain fix...Curtain S. Co.	Ventilators.....Acme Automatic
Curtain material..Pantasote	Wheels.....rolled steel 34 in.
Destination signs...Hunter	Wheelguards.....H-B
Hand brakes.....Peacock	Agosote headlining
Headlights,	Door hangers,
Adams and Westlake	Burdette-Rowntree

## TRADE NOTES

**American Ship Windlass Company, Providence, R. I.**, has received an order from the Portland (Me.) Railroad for a six-retort Taylor underfeed stoker to be applied to a new 500-hp Babcock & Wilcox boiler now being installed in the railway company's power house in Portland.

**Warren Steam Pump Company, Warren, Mass.**, announces that L. G. Kibbe has resigned his position as treasurer of the Wheeler Condenser & Engineering Company, Carteret, N. J., to take an active part in the management of the first mentioned concern. His office will be at Warren, Mass.

**Whipple Supply Company, New York, N. Y.**, has been formed by A. L. Whipple, formerly sales manager of Forsyth Brothers Company. The new company will have offices in the Hudson Terminal Building, 50 Church Street, and will handle several specialties for steam and electric railroads.

**Allis-Chalmers Company, Milwaukee, Wis.**, shipped during September 21 steam turbines to 18 different customers. The smallest unit built during the month was of 300-kw capacity. Several of the machines were of the low-pressure type for use in connection with high-pressure reciprocating engines.

**Western Electric Company, New York, N. Y.**, has just completed two installations of telephone train dispatching apparatus on the Norfolk & Western Railroad for handling its trains between Roanoke, Va., and Bluefield, W. Va., 102 miles and between Bluefield and Williamson, W. Va., 107 miles. There are 16 stations on the former circuit and 22 stations on the latter. Gill selectors are used on both circuits. These lines extend through some very mountainous country and afford a good test of telephone train dispatching under very severe conditions. The equipment has been in service since Sept. 25, and W. C. Walstrum, superintendent of telegraph, reports that both circuits have been giving excellent service since that time. One of these circuits was pressed into service before being fully completed owing to the telegraph circuits having gone out of commission due to the recent widespread electrical disturbance attributed to the Aurora Borealis.

## ADVERTISING LITERATURE

**Northwestern Expanded Metal Company, Chicago, Ill.**, has sent out an illustrated bulletin showing how its "Knoburn" expanded metal lath can be used in giving a wooden house a fireproof cement outer coat.

**Frank Ridlon Company, Boston, Mass.**, has issued its list of second-hand electrical machinery for October, 1909. The list contains an announcement about a special offer of new National d. c. 220-volt four-pole motors.

**Pay-as-You-Enter Car Corporation, New York, N. Y.**, is distributing in the shape of a pamphlet entitled "A Word to the Wise" a reprint of an article about graft on street cars which was originally published in the *New York Sun* of July 4, 1909. In the story an ex-conductor tells in a racy style how nickels are stolen, and cites his experience in many cities. From the knowledge of street railway conditions in different cities throughout the United States which the confessor displays it is evident that the disclosures are anything but fiction.

## NEW PUBLICATIONS

**Theoretical Elements of Electrical Engineering.** By C. P. Steinmetz. New York, 1909: McGraw-Hill Book Company. Cloth, 455 pages, including index. Price, \$4.00 net. This well-known treatise on alternating current phenomena has now reached its third imprint, representing a thorough revision to include the latest developments in this field. The author treats both transmission circuits and machinery.

**Radiation, Light and Illumination.** By C. P. Steinmetz. New York, 1909: McGraw-Hill Book Company. Cloth, 304 pages, including index. Price, \$3.00 net.

This book is based on a series of engineering lectures delivered at Union College, Schenectady. With the exception of two chapters, entitled "Light Flux and Distribution" and "Light Intensity and Illumination," the treatment is non-mathematical. The twelfth and thirteenth lectures treat of the problems of the illuminating engineer and are especially interesting because of the greater attention now given to scientific lighting.

**Alternating-Current Motors.** By A. S. McAllister, Ph.D. New York: McGraw-Hill Book Company, 1909; 322 pages (illustrated) including index. Cloth, \$3.00 net, postpaid.

The fact that Professor McAllister's work has reached a third edition in three years proves that it has filled a niche in alternating-current literature with satisfaction. The new issue will appeal to railway men in particular on account of the clear, extended treatment of repulsion motors and on the prevention of sparking in single-phase motors. The excellent plan of summarizing the salient features of each type of apparatus before presenting any analytical treatment has been retained in this last edition.