

Electric Railway Journal

A CONSOLIDATION OF

Street Railway Journal and Electric Railway Review

VOL. XXXVIII

NEW YORK, SATURDAY, DECEMBER 16, 1911

No. 25

PUBLISHED WEEKLY BY

McGraw Publishing Company

JAMES H. MCGRAW, President; C. E. WHITTLESEY, Sec'y and Treas.

239 WEST THIRTY-NINTH STREET, NEW YORK

TELEPHONE CALL: 4700 BRYANT. CABLE ADDRESS: STRYJOURN, NEW YORK.

CHICAGO OFFICE.....1570 Old Colony Building

CLEVELAND OFFICE.....1021 Schofield Building

PHILADELPHIA OFFICE.....Real Estate Trust Building

EUROPEAN OFFICE....Hastings House, Norfolk St., Strand, London, Eng.

TERMS OF SUBSCRIPTION:

For 52 weekly issues, and daily convention issues published from time to time in New York City or elsewhere: United States, Cuba and Mexico, \$3.00 per year; Canada, \$4.50 per year; all other countries, \$6.00 per year. Single copies, 10 cents. Foreign subscriptions may be sent to our European office.

Requests for changes of address should be made one week in advance, giving *old* as well as new address. Date on wrapper indicates the month at the end of which subscription expires.

NOTICE TO ADVERTISERS.

Changes of advertising copy should reach this office ten days in advance of date of issue. New advertisements will be accepted up to Wednesday, 9 a. m., of the week of issue.

Copyright, 1911, by MCGRAW PUBLISHING COMPANY.

Entered as second-class matter at the post office at New York, N. Y.

Of this issue of the ELECTRIC RAILWAY JOURNAL, 8500 copies are printed.

The Association of American Advertisers has examined and certified to the circulation of this publication. The figures of circulation contained in the Association's report only are guaranteed.

ASSOCIATION OF AMERICAN ADVERTISERS.

No. A-82.

Whitehall Bldg., N. Y. City.

NEW YORK, SATURDAY, DECEMBER 16, 1911.

CONTENTS.

| | |
|--|------|
| Coal Storage..... | 1225 |
| Railway Capital Needs..... | 1225 |
| The Thirty-eighth Street Substation of the Brooklyn Rapid Transit System | 1226 |
| Increases in Western Interurban Fares..... | 1226 |
| Spreading the Peak Load..... | 1227 |
| The Thirty-eighth Street Substation of the Brooklyn Rapid Transit System | 1228 |
| T. E. Mitten Resigns as President and Director of the Chicago City Railway | 1232 |
| Philadelphia Near-Side Cars..... | 1232 |
| Increases in Fares on Western Interurban Lines..... | 1233 |
| Convention of the Pennsylvania Street Railway Association..... | 1238 |
| Hearing on Heating and Ventilation of Cars in New York City.... | 1239 |
| Report of Committee on Passenger Traffic..... | 1240 |
| Opinion of Commission on Which New York Transfer Order was Based | 1228 |
| Provisions of the New Detroit Ordinance..... | 1244 |
| Progress Bulletin on the Keokuk Dam..... | 1246 |
| Report of Railroad Securities Commission..... | 1246 |
| Franchise Settlement Proposal Submitted to City of Toledo by Company | 1247 |
| New Officers of Manufacturers' Association..... | 1249 |
| Hydroelectric Power Expansion in Massachusetts..... | 1249 |
| Proposed Order to Stencil and Number Poles in New York..... | 1249 |
| Statistics of Water Power Development..... | 1249 |
| Next International Convention at Christiania..... | 1249 |
| Committee on Accounts in New Jersey..... | 1250 |
| Comparative Costs of Tile and Fiber Conduit..... | 1250 |
| Signals on the Ft. Dodge, Des Moines & Southern..... | 1250 |
| News of Electric Railways..... | 1251 |
| Financial and Corporate..... | 1254 |
| Traffic and Transportation..... | 1258 |
| Personal Mention..... | 1260 |
| Construction News..... | 1261 |
| Manufactures and Supplies..... | 1264 |

Coal Storage

The results of the tests on coal recently made by the United States Bureau of Mines show that the calorific losses in coal, while in storage, are so small that they are not worthy of consideration, and that the real problem of coal storage is one of protecting the coal against spontaneous heating and slacking. This protection is more necessary with the lower grades of soft coal used throughout the West than with anthracite. Quite a number of the larger utility companies in the Western territory have evidently anticipated the results of these tests and have built at central points large basins or coal storage pits for storing low-grade coals under water. In this territory at certain periods of the year the markets are flooded with soft coal screenings, and the price per ton drops to a minimum. Screenings have been found to have great fuel value, particularly when mixed with crushed run-of-mine, but they are consumed at a uniform rate throughout the year. This condition required some economical method of storage, and the coal storage pits resulted. The practice of storing screenings has had a tendency to increase the average annual market value of the screenings, but at the same time the annual power house fuel costs are kept more uniform. A great deal of care was exercised in locating these pits with a view to a minimum cost of re-handling, and in several cases special loading and conveying machinery has been installed. These pits are also found to be of great value during extended strike periods in the mining industry, and a real economy in power production costs has resulted.

Railway Capital Needs

The comprehensive report of the Railroad Securities Commission, which was transmitted to Congress this week, emphasizes the importance, in whatever attitude the government may take finally on this subject, of encouraging further investment in railway development. Thus, the commission says, that, as a result of the present misunderstanding, the necessary development of railroad facilities is now endangered by the reluctance of investors to purchase new issues of railroad securities in the amounts required, and that this reluctance is likely to continue until the American public understands the essential community of interest between shipper and investor and the folly of attempting to protect the one by taking away the rewards of good management from the other. It is axiomatic that no public utility located in a developing community can meet the increasing needs of the public without constant addition to its facilities. If, in the case of a railway, more trackage is not needed, additional cars, terminal facilities

or other improvements are required from time to time. The bankers, the direct purchasers of bonds to whom the railways look for capital, acquire these securities as merchants, and are willing to take them only when the public is equally ready to absorb them in small lots without unreasonable delay and at a price which yields the underwriter a profit for the risk and the use of his money. When additional stock of a railroad is issued for construction purposes the best market is found, as a rule, with the existing shareholders. In order that they may be encouraged to buy, however, it is advisable that the subscription price be sufficiently below the market to afford a profit. Anything which tends to destroy the expectation of the shareholders of a reasonable profit tends to make it impossible to finance by the issue of stock. The only other avenue open for financing is through the issue of bonds, and the danger of continual resort to this class of security is that the fixed charges of the property may, in time, reach an amount that cannot be earned in periods of business depression. Dividends can be cut or passed in times of severe financial stress. If the conservative report of the commission is effective in restoring conditions by which capital will turn freely again to railway investment, it will have accomplished an act of signal service to the country.

The Thirty-eighth Street Substation of the Brooklyn Rapid Transit System

Substation design and operation have followed such set lines within the past decade that it is almost startling to find a variation from the fixed types. It is, therefore, rather satisfying to present elsewhere in this issue a description of the Brooklyn Rapid Transit System's latest substation which does embody several noteworthy improvements in the arrangement and use of the apparatus. Doubtless the most commendable feature of the building itself is the ample provision for natural light and ventilation. Despite the obvious need for light and air, there are plenty of city substations which seem to have been designed for operation by bats and moles rather than by human beings. It is hardly needful to point out that a dark and poorly ventilated building tends to depress the men who work in it instead of keeping them alert for emergencies. The cost of a skylight is not too high a price for better service. In addition, the rules for the protection of the employees and for insuring the proper sequence of operations in starting the machinery show that much thought also has been given in other directions toward eliminating human error in substation service. The arrangement of equipment in so large a plant as the Thirty-eighth Street substation was quite a problem on account of the limited space. Nevertheless, it was found possible so to install the apparatus that a man can start a rotary converter without first rushing into the cellar or climbing into the gallery, as is necessary in some other stations. The ample clearances and the abundant light insure freedom of movement, ease of inspection and general neatness. Although no benchboard is installed, there are various auxiliary circuit lamps on the switchboard to indicate to the operator at a glance the condition of the more remote apparatus. The use of a duplicate high-tension bus is uncommon, but it is justifiable in a substation of such importance as this. Another innovation is the provision for

starting the rotaries from a main transformer in case a starting transformer is disabled. The adoption of hinged wire-glass doors for the oil-switch compartments proves that room for betterment may exist even in thoroughly standardized devices. The blow-up of a high-grade oil switch of to-day is a remote possibility, but it is well to take precautions which will insure little or no damage even if an accident does occur.

INCREASES IN WESTERN INTERURBAN FARES

The increases in fares made on certain lines in Massachusetts are familiar to most if not to all of our readers, but it may not be so generally known that fares have also been increased on various Western roads to furnish needed larger earnings. Those described in the article published elsewhere in this issue followed periods of experiment with lower rates of fare which were established to demonstrate whether they would stimulate a greater density of traffic. Larger loads at a lower rate of fare may lead to better earnings under some conditions than lighter loads at a higher rate of fare, but on lines of relatively small traffic there is not sufficient business to furnish the car loads required to justify much of a reduction in rates. This was demonstrated by Clement C. Smith, the president of the Wisconsin companies whose experiences are reported. The experimental low rate of fare had substantially no effect on the development of traffic.

As the need for greater revenue was plain, it was decided to make an increase, but not until after a full explanation had been given to the public of the reasons for the change. The statement issued was much more than a declaration that the money was needed. It showed, first, that the company had assumed additional expense as a result of an advance in the wages of trainmen. It referred to the doubling of taxes and the higher prices of all materials entering into the costs of electric railways. It also directed attention to the necessity of a provision for depreciation, which was made emphatic by the decision of the United States Supreme Court in the Knoxville water case. The statement was concluded with a declaration of the interest of the company in the communities served and a frank expression of willingness to open the books for inspection at any time in order that full evidence of the necessity of the step taken might be had by any who were interested. It was reasonable, strong and convincing.

Partly as a result of these careful preliminary steps the increases in rates have been maintained, and have resulted in a greater revenue. As is shown by the figures presented, a larger revenue was secured notwithstanding that there was a reduction in the number of passengers carried. This reduction is attributed to the less favorable business conditions in the communities served and not to the increases in rates. This lessening in industrial activity, without a coincident advance in railway rates, would have had a marked effect upon earnings.

Each of the properties described in our article, if taken by itself, is a comparatively small system, but the manifest condition of finances which made higher earnings imperative to financial progress is just as applicable in principle at this time to the electric railway situation as a whole as

if the properties had been among the largest of the interurban railways of the country. Part of the lines, at least, had been involved in heavy loss because of their inability under a predecessor company to become established on a basis of satisfactory earning capacity. In this respect also the lines are like other interurban systems in the Central West which include properties acquired at foreclosure or forced sale.

For years it was the theory of promoters and others that interurban electric railways could operate for less than the steam railroads. The reasons for this belief then were not wholly illogical. They consisted of an apparently tenable theory that an electric railway operating one or two trains an hour could secure greater revenue from the fixed investment in the track and other main elements of the property than a steam line operating a few trains a day. With this hope many roads were promoted, and a number of the properties remain in the aspiring hands of those who built them, while others have passed to the control of those who purchased the securities.

Time has revealed reasons for dissatisfaction. It has shown that between active centers of population and business there is the real public demand that was anticipated for the hourly or two-hourly service maintained by the interurban electric railway. But it has also shown that this service, like other similar forms of progress, is adapted to successful patronage when certain conditions prevail, and that in the absence of these conditions unfortunate results may ensue. Such conditions relate to a favorable rate of progress of the industries of the territory; to the manner in which business in the district is sustained through occasional periods of depression; to the development of liberal riding habits by the population; to the degree of competition from other transportation agencies, and to other like considerations. In addition to these, an influence which has hurt the interurban roads is the movement for low rate passenger fares on steam railroads. Whether the interurban electric lines were subject to similar reduction or not, the movement led to agitation for a reduction in the rates of all railways. Such a sentiment has discouraged the managements of some interurban lines from making the increases in rates with which they had hoped to overcome the higher costs of operation.

The final inimical effect on interurban operation of some of the conditions affecting traffic earnings might have been anticipated if foresight had been as sure as hindsight, but if these conditions had been as plain to the eye before construction as they were after a few years of operation, some of the roads which are now furnishing valuable service to the community would not have been built. General business throughout the country has not been as favorable as the outlook five years ago promised. There has been an increasing public outcry against costs of living; and the interurban lines have not generally believed it possible to advance rates sufficiently to offset the greater expenses that confront them.

Mr. Smith, by his experience with the properties described, gives encouragement to lines whose needs of increased revenues are clear to tell the facts to the public and rely upon the fair-minded attitude of citizens for acceptance of the higher charges.

SPREADING THE PEAK LOAD

The complaint about the excessive peak loads on electric railways in industrial communities is not a new one, but hitherto no united attempt has been made by the railways themselves to show how rush-hour traffic could be more effectively distributed. It is a welcome sign, therefore, that this matter is one of the subjects which has been assigned to the committee on passenger traffic of the American Electric Railway Transportation & Traffic Association. The peak-load evil is to be found at its worst not in large cities with a variety of industries, but in towns with less than half a dozen enormous manufactories, all of which open and close their gates at the same time. Steam railroads usually handle situations of this kind merely by keeping a number of outworn passenger cars in reserve on the factory sidings. On the other hand, the public demands better service from an electric railway and looks askance even at the single-truck trailer. It goes without saying that the economic aspect of using a motor car for only one or two round trips a day is distinctly unfavorable. Yet even if the cars were available, it would be well-nigh impossible to find crews for them unless a company could afford to give men a day's pay for two hours' work.

These facts are obvious to the railway manager, but not so to the public. All that the latter sees is cars loaded to the guards, and complaints and sarcastic comments about overcrowding are common. Few people realize that the railways are not only willing but anxious to improve these conditions but are powerless to do so. The solution is out of their hands and, in the case which we are considering, that of a factory town, almost entirely in the hands of the public. In one such case the subject was taken up very earnestly with the factory owners in a certain city to try to induce them to agree among themselves so that a slight shift should be made in the working hours of some of the factories. No attempt was made to advocate a longer or a shorter day, but simply that the hands in all of the factories should not begin and finish work at exactly the same time. Even a slight shift of, say, fifteen minutes, or better, of thirty minutes, would accomplish what was wanted, but the appeal was unsuccessful.

One reply often made to a suggestion of this kind has been that such an arrangement would upset the balance of inter-department production and distribution. This sort of objection might be valid in the case of a rolling mill or bakery, but it would hardly apply to a shoe factory or other shop where such things as "critical temperatures" are unknown. There is, for example, a large establishment in New York where one group of men work from 7 a. m. to 5 p. m., another from 7 a. m. to 6 p. m. and a third from 9 a. m. to 5 p. m., although their activities are interdependent. It is quite likely that the employers' real objection to a change in working hours is the feeling that any readjustment will provoke labor troubles. If this is true, it would seem that the campaign for better distribution of rush-hour traffic should be directed toward educating the wage-earning public rather than the employers. No sensible man is likely to be dissatisfied because his workday has been put forward or backward for a few minutes or even for half an hour if he should profit by the change.

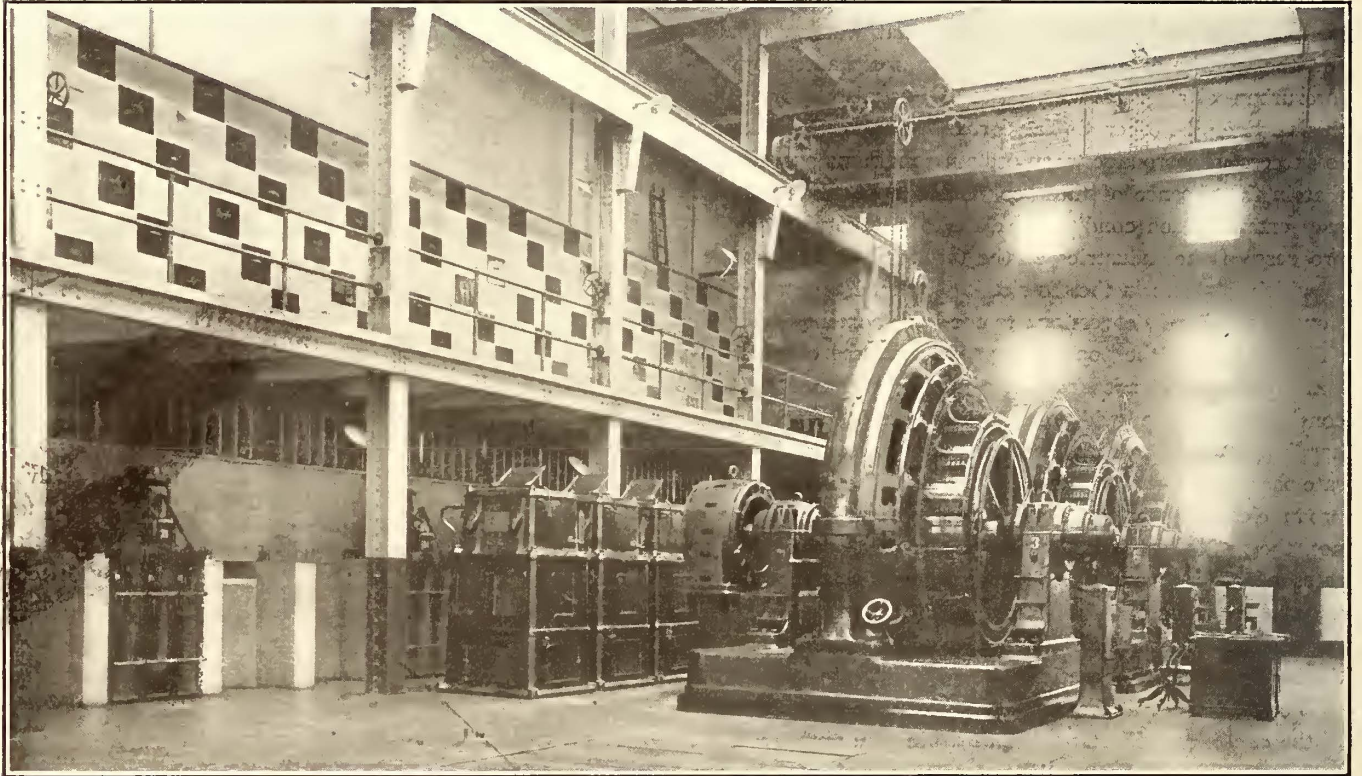
The Thirty-eighth Street Substation of the Brooklyn Rapid Transit System

Among the Interesting Features of This Substation Are the Simplicity of Layout, the Compact Arrangement and Accessibility of the Equipment, the Interlocking and Indicating Devices and the Provisions for the Safety of the Employees

Since May 28, 1909, the Brooklyn Rapid Transit System has had in service a substation on Thirty-eighth Street between Fourth and Fifth Avenues. The ultimate capacity of this station will be 10,000 kw; of this 6000 kw is now installed in 2000-kw units. The station is located in the South Brooklyn section about midway between the Brooklyn Bridge and the beaches. It is tied in on the side toward New York with the d.c. generating equipment of the Central power station and on the ocean side with the New Utrecht and Southern substations. In common with these distributing points it supplies power to the West End, Culver and Bay Ridge elevated lines and to the Second Avenue, Third Avenue, Fifth Avenue, Hamilton Avenue, Fifteenth Street and Thirty-ninth Street surface lines. The following paragraphs will describe the constructional and oper-

the roof is the unusually large monitor skylight to insure ample natural light and ventilation. The side and end windows of the skylight are controlled from the floors or gallery by means of a bevel-gear transmission. The window system was also arranged to secure liberal lighting and ventilation, as will be readily apparent from the view of the interior. Most of the side windows are 16 ft. 6 in. high x 4 ft. wide and of four-sash construction. The upper two sashes are pivoted. The lower sash is of sliding type. The lower sashes as well as the lights indoors are protected by iron grill work. All glazing throughout, including the entrance doors, skylight and oil-switch compartment doors, is of Mississippi wired glass for fire protection and durability.

The cross-section shows that the station is divided into a main section in which are installed the transformers, ro-



Brooklyn Substation—View of the Three Rotaries and of the High-Tension Equipment on the Main and Gallery Floors of the Thirty-eighth Street Substation

ating features which are typical of the advanced methods originated by the engineers of this company.

BUILDING CONSTRUCTION AND LAYOUT

The building was erected on a plot 50 ft. wide x 100 ft. deep to a height of 31 ft. 6 in. from the main floor to the bottom of the roof girders. The general construction and the arrangement are shown in the accompanying cross-section, which also indicates in part the character of the building materials. The exterior is of red brick, the interior wainscoting of enameled brick, while buff brick is used for the rest of the inside walls and for the oil-switch and high-tension bus structures. Concrete is employed exclusively for all foundation walls and flooring. The roof consists of a steel frame which carries reinforced concrete slabs with a tar and gravel covering. The most striking feature of

rotaries and switchboard, and a side bay with gallery. The main floor of the substation accommodates the high-tension oil switches, selector switches and starting set transformers, while on the gallery or upper level are the high-tension bus and synchronizing transformer compartments, a front room for employees' toilet and lockers, and a rear room for a storage battery. The basement under the main floor is divided into two sections by the rotary foundation wall and contains an air room of ample size directly under the rotary transformers and a passageway under the rotaries. The incoming high-tension feeders and outgoing d.c. feeders enter or leave the building underground through vitrified conduit to feeder pits which are constructed along the side walls of the building. These feeder pits are covered by removable slate floor slabs. The crane girders for a 25-ton

manually operated Reading crane of 35-ft. span are carried by the main side wall pilasters and by the latticed columns which support the roof girders and gallery.

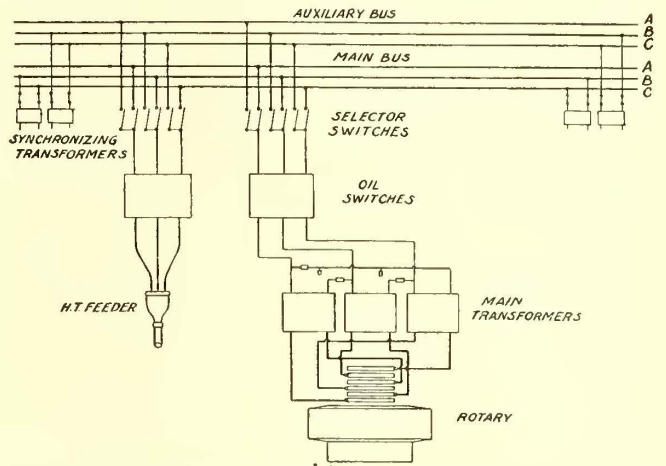
Ample clearances are obtained throughout the building, as may be seen, owing to the arrangement of the equipment. The principal dimensions are as follows: height from floor of main section to base of crane, 24 ft.; width of main section over all, 36 ft. 8 in.; clearance between rotary pedestal switches and switchboard, 9 ft. 6 3/8 in.; clearance between switchboard and pilasters, 2 ft. 11 in.; width of bay, 10 ft. 4 in.; clear height of lower floor of bay, 11 ft. and of upper floor, 10 ft. 6 in.

ARRANGEMENT OF CIRCUITS

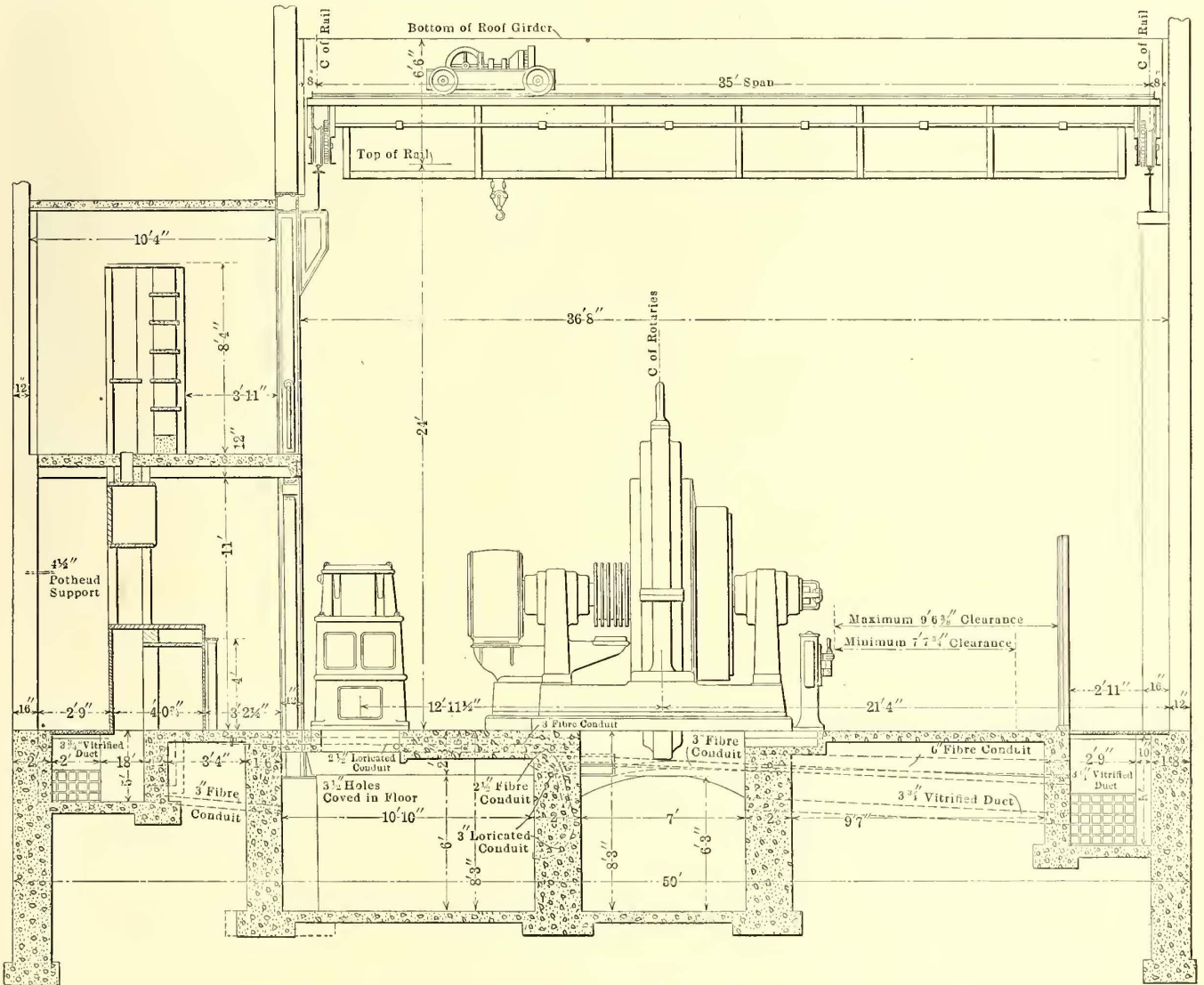
Current is received at the station at 6600 volts, three-phase, 25 cycles, but the wiring and installation in general has been laid out for the eventual use of 11,000-volt lines. The accompanying sketch represents a schematic wiring diagram of a high-tension feeder and a rotary and shows that the high-tension feeder on leaving the pothead passes through the feeder oil switch and selector switches to the main or auxiliary bus and then from either bus through similar rotary selector switches and oil switches to the main transformers and rotary. From that point the current passes to the d.c. bus and outgoing d.c. feeders.

All d.c. feeders leave the station underground to man-

the rotary is made through a 4500-amp hand-operated pedestal switch, one being located in front of each rotary. This arrangement gives the shortest practicable connection from the negative bus to the machine. From the cross-section, showing the arrangement of equipment, it will be



Brooklyn Substation—Simplified High-Tension Wiring Diagram



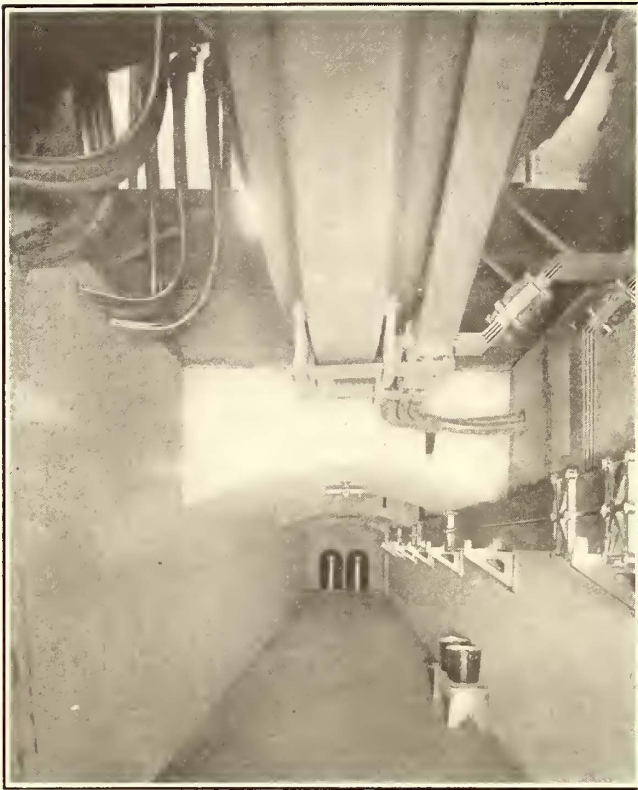
Brooklyn Substation—Cross-Section, Showing Tunnels, Ducts and Location of the Principal Apparatus

holes in the street and thence are distributed by subways or along the elevated structure, according to conditions. The ground wires enter at the front of the building, where they connect to the negative bus which is installed along one wall of the passageway under the rotaries. The connection to

noted that the wiring from the potheads to the d.c. feeders is as direct as possible, any unnecessary looping being avoided.

Each phase of the high-tension line, after leaving the pothead, is carried on high-tension porcelain insulators

through separate brick or alberene compartments to the high-tension bus. Access to the supports and the terminal connections in these compartments may be had through removable alberene or sheet-iron doors. Each compartment or phase is properly designated according to the phase relation of the connection to the high-tension bus.



Brooklyn Substation—View Under a Rotary, Showing All Connections, Including the Negative Busbars

The high-tension selector switches are interlocking so that it is impossible to close a machine or feeder on both the main and auxiliary buses at the same time. As these selector switches are located directly over the oil switches, there is no occasion for an operator to make a mistake in pulling the wrong selector switch while the oil switch is closed in on the line. As an additional precaution, each set of selector switches is designed by letter to show to which bus it is connected. At the rear of each set of selector switches are pilot switches which are operated automatically by the shifting of the interlocking bar. The pilot switch, in the case of a feeder equipment, picks up the proper circuit and, by means of a green or red light located on the high-tension feeder panel, indicates whether the selector switches are closed on the main bus or on the auxiliary bus, as the case may be. The object of the pilot switches on the rear of the machine selector switches is to pick up a similar indicating circuit on the corresponding d.c. rotary panel and the synchronizing circuit for the bus to which the rotary is connected by its selector switches.

The high-tension bus compartment is located on the gallery directly over the oil switches and selector switches. This structure is so built that the six busbars lie in a vertical plane. Each busbar is in a separate compartment, and access to its supports or connectors is obtained through the removal of sheet-iron doors. The compartments for the high-tension fuses and synchronizing transformers which provide for two separate and independent synchronizing circuits are built at each end of the bus structure.

The oil switches for both the high-tension feeders and machines are of 300-amp, 13,000-volt capacity each. They are placed in brick compartments on the main station floor, each compartment being provided with a transparent wire-

glass door which hinges from the top. Besides giving a very neat appearance to the switch, these doors are light and easily handled as compared with the usual alberene doors; furthermore, they allow external inspection of the switch tanks and oil levels without the removal of the doors. The position in circuit of the oil switches is indicated by means of lamps which are located on their respective panels. A red lamp means that the switch is closed and a green lamp that the switch is open.

The lead-covered, high-tension leads from the machine oil switch terminals pass through fiber conduit to the air chamber under the transformers. Provisions have been made so that connections to the transformer terminals can be readily changed from 6600-volt delta to 11,000-volt star, by means of hard-rubber insulated connectors. The main transformers are of the single-phase, air-cooled type of 750 kva capacity, having a transformation ratio of 6450 volts to 390 volts, with taps to provide for additional voltages and thus to allow for line drop.

As the rotaries are synchronized on the high-tension side of the transformers, the secondary connection from the transformers is direct to the a.c. terminals of the rotary without the use of any intermediate switches. The diametrical connection is employed between transformers and rotaries.

The rotary converters are of 2000-kw capacity, sixteen poles, 187½ r.p.m., six-phase, shunt-wound, and operate at 550 volts or 600 volts d.c. The rotaries are synchronized by means of an induction starting motor which is mounted on the extended shaft of the armature.

SWITCHBOARD

The switchboard, which is of blue Vermont marble, is



Brooklyn Substation—Monitor Roof and Side Windows as Seen from the Gallery

arranged with panels in line along one side of building, and consists of two sections. One section includes the panels for control of the battery circuits and motor generator set, the a.c. starting set and the high-tension feeders, provision having been made for seven high-tension feeder equip-

ments. Each high-tension feeder panel consists of three sections. On the upper are mounted a static voltmeter, a.c. ammeter and the red and green bus indicating lamps; on the center section a three-pole, double-throw relay switch, a double-pole, single-throw power switch and the oil switch controller with red and green indicating lamps; on the lower section a two-pole G.E. time-limit relay. The other section of the switchboard includes the d.c. rotary panels, load panels and surface railway and elevated railway d.c. feeder panels.

The rotary panels are arranged in the center, with the surface feeder panel to the right and the elevated feeder panel to the left. Power supplied to the surface and elevated railway feeders is metered separately by two load panels, which are located between the rotary panels and the d.c. feeder panels. The cut illustrating the switchboard shows a blank space, which is for the two additional d.c. rotary panels when installed.

The d.c. rotary panels are in three sections. On the upper section is mounted a 5000-amp circuit breaker and red and green bus indicating lamps, which are picked up by the selector switches, as previously noted. The middle section contains an ammeter, power factor meter, field rheostat face plate and hand-wheel voltmeter receptacle, two syn-

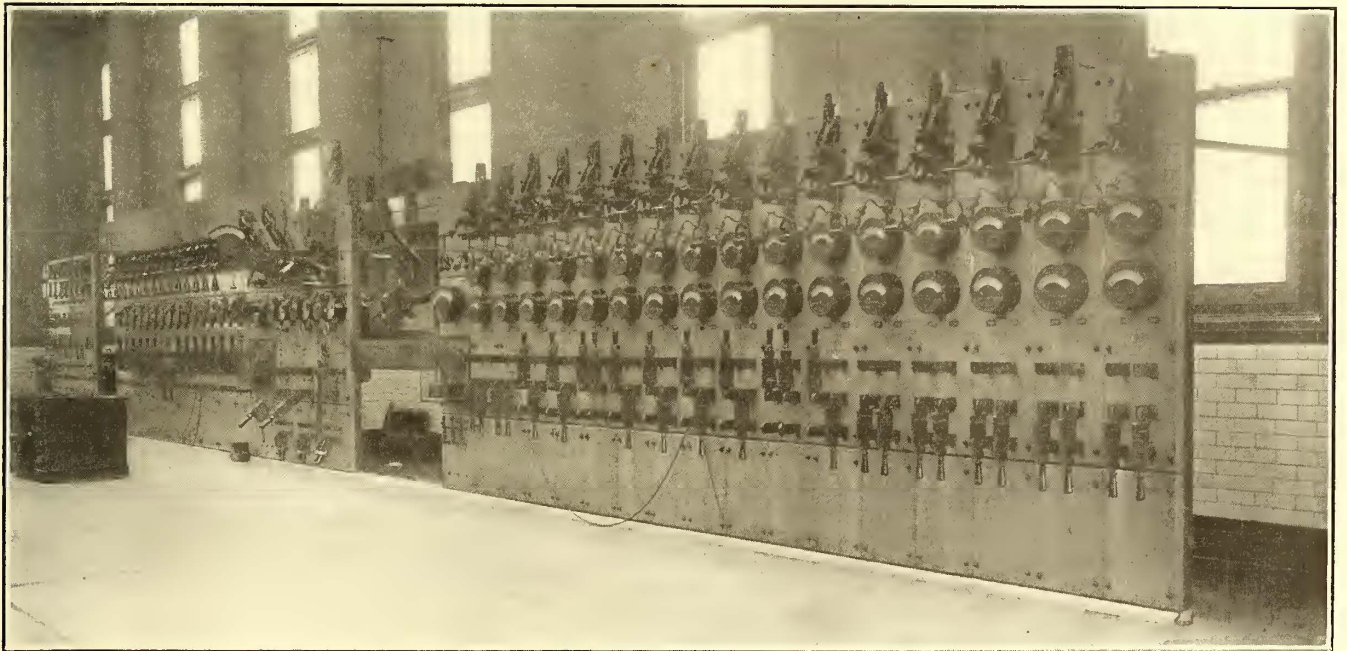
feeder. Marble barriers are provided between the circuit breakers on the elevated railway feeder panels.

Two synchrosopes with synchronizing lamps on swinging brackets are mounted, one at each end of the rotary panels between a rotary panel and the load panel. A pilot lamp supplied from the battery circuit is placed over each synchroscope to facilitate the synchronizing of a rotary in cases when the regular source of light may have failed, due to possible interruption of service or low voltage. Between the rotary panel and the elevated load panel is also mounted, by means of a swinging bracket, the d.c. station voltmeter.

AUXILIARY EQUIPMENTS

Current for the operation of the oil switches, panel indicating lights and synchroscope lamps is furnished by a 55-cell, type E-7 chloride accumulator of the Electric Storage Battery Company and a Western Electric charging set. The basement contains a 10-hp National DD-4 air compressor, from which pipe lines with suitably located taps are led throughout the building to supply air for cleaning out transformers, rotary converters, oil-switch and high-tension bus compartments, etc.

The main transformers are cooled by two blower sets, each consisting of a 12-hp Northern variable-speed motor



Brooklyn Substation—View of the Switchboard with the D.C. Feeder Panels in the Foreground

chronizing receptacles, 4500-amp positive switch and oil switch controller with indicating lamps showing the open or closed position of the oil switch. The lower section carries a three-pole, single-throw induction motor starting switch.

As the energy taken by the surface and elevated feeders is metered separately, a 10,000-amp Thomson integrating wattmeter and a 15,000-amp ammeter are provided for this purpose. These meters are mounted on the center section of each of the load panels. On the upper section of the load panels are mounted red and green feeder-indicating lamps. These lamps are connected in multiple with similar lamps on the high-tension feeder panels, previously noted as being picked up automatically by the selector switches. These lamps are located in this position for the convenience of the operator. The lower section of the load panels contains the switches for the station auxiliary circuits. Each surface feeder panel contains one Westinghouse type "C" circuit breaker, which controls two feeders, and a separate ammeter and separate switch for each feeder. The elevated railway feeder panels differ from those for the surface railways in having a separate circuit breaker for each

and a Sirocco fan having a capacity of 20,000 cu. ft. a minute. The blower installed at the rear of the air chamber under the transformers takes either air from the station or outside atmosphere, but the one at the front of the air chamber takes it only from the building interior. Entrance to the air chamber is facilitated by means of an air lock, each door of which is fitted with a sliding panel for equalizing the air pressure on each side before opening the door.

Three 75-kw oil-insulated, self-cooling transformers are used for the induction motor starting sets. The secondaries of these transformers are tied by disconnecting switches to the starting-motor bus located in the basement. Any rotary in the station can be started from this bus. However, in case a starting transformer is disabled, emergency connections are provided to start the rotaries from either of two main transformer sets. As there is no intermediate connection between the low-tension winding of the main transformers and the rotaries, it is necessary to raise the a.c. brushes of a rotary in case it happens to be idle when this emergency connection is required.

SOME OPERATING FEATURES

The following steps are carried out in starting and syn-

chronizing a rotary converter. After having closed the selector switches and thus connected the machine to the proper bus, the operator closes the oil switch of the starting set. Then the induction-motor starting switch on the d.c. rotary panel which sets the rotary converter in motion is closed. As the machine comes up to speed the resistance is cut out of the field circuit, and the potential is brought up to the approximate d.c. bus voltage. The synchronizing plug is then placed in its receptacle, and when the machine is in step, as indicated by the synchroscope, the oil switch of the main transformers is closed. The next step is to open the oil switch of the starting set, then the induction motor switch, and finally to close the negative switch, throw the circuit breaker and close the positive switch of the machine.

The rotary tenders are provided with two "hold-off" blocks and a stick, which are used to insure their protection when at work on an electrical circuit. One block is placed on the blades of the positive switch of the rotary and the other on the blades of the induction-motor starting switch. The stick, which is of 2½-in. hickory stock, is placed in the plunger of the high-tension oil switch. Thus the starting of the rotary is blocked at all points. The insertion and removal of the "hold-off" blocks and stick are done only by the man concerned. Instant dismissal is the punishment for any tampering with these safety devices.

Alarm bell circuits are provided for all circuit breakers, high-tension and low-tension feeder switches, etc., to notify the attendant of the opening of a line because of overloads or short-circuits.

ENGINEERING AND EQUIPMENT

The substation and the arrangement of all equipment, including the switchboard, were designed, erected and installed under the direction of the engineering staff of the Brooklyn Rapid Transit System. All of the electrical apparatus, with the exceptions noted in the article, was furnished by the Westinghouse Electric & Manufacturing Company.

T. E. MITTEN RESIGNS AS PRESIDENT AND DIRECTOR OF THE CHICAGO CITY RAILWAY

T. E. Mitten has resigned as president of the Chicago City Railway, the Calumet & South Chicago Railway and the Southern Street Railway, effective on Dec. 30, 1911. Mr. Mitten's resignation was announced in the following statement issued by Ira M. Cobe, chairman of the executive committee of the Chicago City Railway:

"Mr. Mitten takes this action because his activities in Buffalo and Philadelphia demand all of his time. He feels that, having carried the properties through their reorganization period and the period of rehabilitation having been passed, his work in Chicago is finished. His resignation was accepted only after every inducement had been held out to him to remain in the service. His successor has not yet been decided upon."

Mr. Mitten's letter to the board of directors of the company transmitting his resignation follows:

"At the request of the board of directors, I took charge of the affairs of the Chicago City Railway in March, 1905, since which time a settlement has been effected with the city and the rehabilitation of the property thereunder has been completed. The operation of the property is now being conducted with that due regard to the interest of the public and the welfare of the company's employees which, in my opinion, is essential to the continued success of a public service corporation.

"The character of service rendered to the public upon the lines of this company compares favorably with that of any other American city and is now limited during the rush hours only by the capacity of tracks entering the loop district.

"The wages of trainmen have been gradually increased from 24 cents an hour in 1905 to the present maximum wage of 30 cents an hour without any increase in the per cent of gross earnings paid for the service, this being accomplished by the use of larger cars and the fact that the operation of cars is more closely adjusted to the volume of traffic.

"The physical integrity of the company's property is fully protected by the maintenance and depreciation reserves established under the terms of the settlement ordinance.

"The earnings of the property applicable to its stockholders are now sufficient to justify the regular dividend of 10 per cent per annum upon the capital stock, in addition to which the city will receive as its 55 per cent of the net earnings for the current fiscal year an amount slightly in excess of \$1,000,000.

"My undertaking having been accomplished with the aid of your wise counsels, the loyal support of the company's employees and the encouragement received from an appreciative public, I respectfully submit my resignation both as president and director of the company.

"Because of my time being so fully occupied with similar undertakings in connection with the street railway systems at Buffalo and Philadelphia, I shall be glad to have my resignation made effective as of Dec. 31, 1911."

Mr. Mitten was born in Brighton, Sussex, England, on March 31, 1865. His parents came to America in 1873 and settled on a farm in Newton County, Ind. Mr. Mitten studied telegraphy and obtained a position at the local freight office of the Chicago & Eastern Illinois Railroad at Goodland. He continued with this company for several years and in 1893 became connected with the Denver & Golden Railroad. He next served the Milwaukee Electric Railway & Light Company as assistant superintendent and as general superintendent. In 1901 he was appointed general superintendent of the International Railway Company, Buffalo, N. Y. Subsequently he was appointed general manager of the company and is now vice-president and a director of that company. Mr. Mitten was appointed president of the Chicago City Railway in 1905. He is a director of the Philadelphia Rapid Transit Company and chairman of the executive committee of the company.

PHILADELPHIA NEAR-SIDE CARS

Supplementing the announcement published in last week's issue regarding the authorization by the board of directors of the purchase of 500 near-side cars, the Philadelphia Rapid Transit Company states:

"In order to correct the erroneous impression that the near-side car is wider and heavier than the pay-within car now in use, the following comparative figures are given:

| | Pay-Within Cars. | Near-Side Cars. |
|------------------------|------------------|-----------------|
| Weight | 42,000 lb. | 37,000 lb. |
| Seating capacity..... | 40 | 54 |
| Standing capacity..... | 36 | 36 |
| Total capacity..... | 76 | 90 |
| Length over all..... | 41 ft. | 45 ft. |
| Width over all..... | 8 ft. 6 in. | 8 ft. 6 in. |
| Electric lights..... | 12 | 30 |

"The length given for the pay-within car includes the projecting fender for which this car was designed. The added distance between the trucks on the near-side car as compared with that on the pay-within car almost entirely overcomes the additional overhang resulting from the added length of the car."

The scheme adopted by the municipality of Pretoria (South Africa) for extending the local tramway system at a cost of \$235,000 will, it is stated, involve the placing of orders for passenger cars to the value of \$20,000; freight cars, \$30,000; coal bunkers, \$15,000, and rails, \$75,000.

Increases in Fares on Western Interurban Lines

Three Railways in Which Clement C. Smith Is Interested, Two in Wisconsin and One in Illinois, Have Advanced Their Passenger Rates on Account of Higher Costs of Operation

Among the railways which have found it necessary to increase their rates of fare on account of the higher costs of operation are the several companies in which Clement C. Smith, of Milwaukee, is actively interested. Mr. Smith is the president of the Eastern Wisconsin Railway & Light Company and the Wisconsin Electric Railway. He is also vice-president of the Sterling, Dixon & Eastern Electric Railway of Dixon, Ill.

Careful analysis of the operations of these three properties and of the territory which they serve was made before the decision to advance fares was reached. This analysis disclosed the inadequacy of revenue at the old rates of fare and also the fact that the territory served and the traffic already existing were of such character that little relief could be expected by any other means than through an increase in the unit rate of fare. It was revealed clearly that earnings had not been sufficient from the beginning of operation to provide for the depreciation of the properties if expenses and interest requirements were met. Experience had shown that the expectations of the management that greater density of traffic would be developed to meet all the financial requirements had not been realized.

The decision was therefore reached to make an advance. This was effected on all three of the properties by a change in the divisions of zones. The earnings of the properties before the change and the improvement in the average revenues per passenger are described in detail so that the full reasons for the action of the companies may be understood.

THE WISCONSIN PROPERTIES

The Wisconsin Electric Railway, the largest company of the three named, operates 42.82 miles of track. It combines interurban lines with the city lines in Oshkosh and Neenah, Wis. Of the total mileage 22.88 is single-track interurban line and 19.94 miles consists of the city lines. The miles of single track operated in the city of Oshkosh aggregate 19.15, while in the city of Neenah only 0.79 mile is operated. The two interurban lines comprise the line from Oshkosh to Neenah, 13.79 miles, and from Oshkosh to Omro, 8.59 miles. At Oshkosh the lines of the Wisconsin Electric Railway connect with the lines of the Eastern Wisconsin Railway & Light Company, which, although a separate company, is owned and operated by the same interests. This company operates 24 miles of single track. Of this, 14.76 miles of track consists of the interurban line connecting Oshkosh and Fond du Lac, while 9.24 miles comprises the city system in Fond du Lac. The interurban mileage operated by the Wisconsin Electric Railway, with the addition of the city mileage over which the interurban lines are run, is as follows: From High Street, Oshkosh, to Commercial Street in Neenah, 15.58 miles; from High Street, Oshkosh, to the terminus at Omro, 11.17 miles. The interurban line operated by the Eastern Wisconsin Railway & Light Company extends from Forest Avenue, Fond du Lac, to High Street, Oshkosh, 18.17 miles.

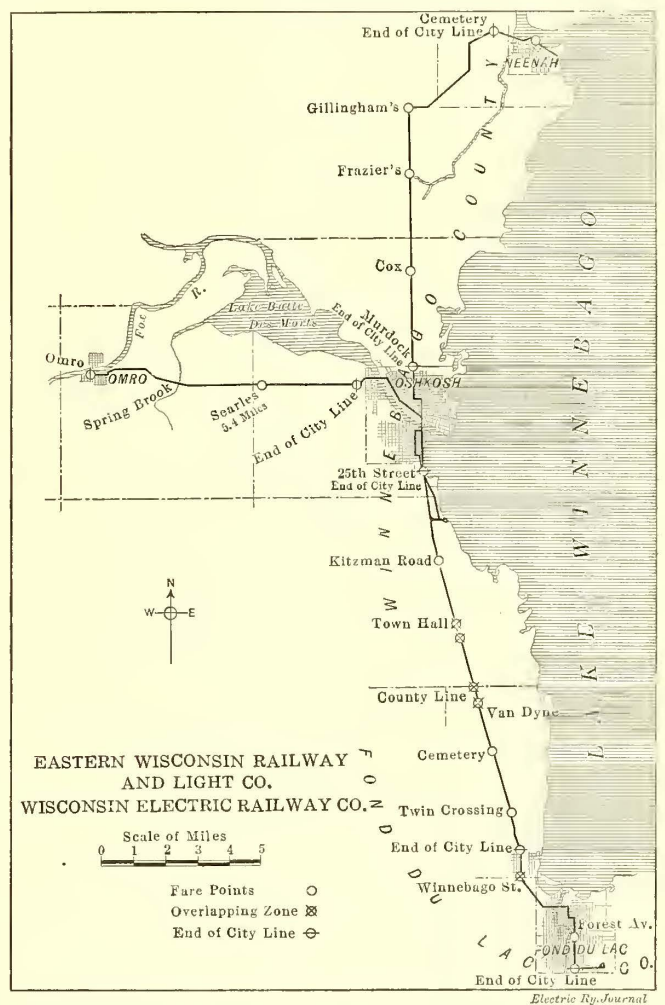
INCREASES IN WAGES OF TRAINMEN

Added to the other factors which made necessary a careful consideration of the financial condition of the two companies was the increased schedule of wages paid to trainmen, which became effective on Dec. 1, 1909. Before that date there had not been uniformity in the rates paid to trainmen on the city and interurban lines of the two systems. The rates paid on the Wisconsin Electric Railway prior to Dec. 1, 1909, were as follows: City lines—first, second and third years, 16 cents per hour; fourth, fifth and sixth years, 17 cents; seventh and eighth years, 18 cents;

subsequent years, 19 cents. Neenah interurban line—first and subsequent years, 20 cents. Omro interurban line—first, second and third years, 18 cents; fourth, fifth, sixth and subsequent years, 20 cents.

The new rates of wages for trainmen on the Wisconsin Electric Railway effective Dec. 1, 1909, were: City lines—first year, 16 cents per hour; second year, 17 cents; third year, 18 cents; fourth and fifth years, 19 cents; sixth and subsequent years, 20 cents. Interurban lines—first year, 18 cents; second year, 19 cents; third year, 20 cents; fourth and fifth years, 21 cents; sixth and subsequent years, 22 cents.

The old schedule of wages on the Eastern Wisconsin Railway & Light Company was as follows: City line—



Map Showing Lines of Wisconsin Electric Railway and Eastern Wisconsin Railway & Light Company

first year, 15 cents per hour; second year, 16 cents; third and subsequent years, 17 cents. Interurban line—20 cents per hour. The new rates of wages on the Eastern Wisconsin Railway & Light Company lines, effective Dec. 1, 1909, are identical with those adopted for the Wisconsin Electric Railway on the same date. In the consideration of the new schedule of wages information was secured from the various companies in the State as to the prevailing schedules. The schedules obtained in this way were averaged, and the new figures adopted for the companies are the average wages paid in the State for service of this character.

In connection with the change in wages certain changes were made in the abolition of tickets for employees and the establishment of the rule that employees may ride free on cars only when wearing their uniform or badge. It was also decided that trainmen on the city lines, if transferred to the interurban lines, should be held to be in the same class, so far as length of service is concerned, as if they had been employed from the beginning of their connection with the company on the interurban system.

Before the new schedules of fares were placed in effect on the various lines affected a lengthy statement to patrons was prepared by Mr. Smith and made public on behalf of both companies at the same time. In addition formal rate sheets were compiled in accordance with the requirements of the Railroad Commission of Wisconsin and were displayed conspicuously in stations of the companies and in all the cars. In this way full notice of the increase was given. The formal statement issued by the companies called particular attention to the financial condition of the properties, the higher expenses resulting from increased wages paid to trainmen and, as a convincing argument for the change, to the decision of the United States Supreme Court in the Knoxville waterworks case. An abstract of the decision in this case was published in the *ELECTRIC RAILWAY JOURNAL* of Feb. 13, 1909, page 280. This decision stated that it is the duty of companies to make good the effects of depreciation from earnings. The letter of the company said in part:

LETTER OF THE COMPANY

"The fare from Oshkosh to Neenah is now at an average rate of 1.28 cents per mile; the fare from Oshkosh to Fond du Lac at an average of 1.37 cents per mile, and the fare from Oshkosh to Omro at an average of 1.35 cents per mile.

"The necessity for increasing the fares became evident to the management of the Winnebago Traction Company in the spring of 1905, and the company at that time raised the fares from Oshkosh to Neenah from 20 cents to 25 cents, and from Oshkosh to Omro from 15 cents to 20 cents. The company's records show there was a considerable increase in earnings, and they also show the number of passengers carried did not decrease.

"In March, 1908, following the panic of 1907, which materially reduced all travel, the receiver of the traction company sought to build up earnings again by reducing the interurban fares to the rates charged formerly. There was an immediate decrease in gross earnings and this decrease has continued to the present time.

"The former bondholders of the Winnebago Traction Company still own the greater part of the bonds of the Wisconsin Electric Railway Company. They have suffered a heavy loss through the reduction in the amount of bonds on the property.

"The present management of the two properties was therefore fully aware of former conditions when it took charge of the properties. It was hoped, however, that by reducing the bonded debt, by bringing the two properties under the same management, by centralizing the work of repairs and maintenance of cars, by through operation of interurban cars from Fond du Lac through Oshkosh to Neenah, and by other economies due to one management, the increase in rates might possibly be avoided. The results of operation have now been so clearly shown that there is no excuse for the management to postpone an effort to obtain sufficient revenue to give good service and maintain the property as it should be maintained.

"The earnings of the companies have so far been entirely inadequate to provide for depreciation, and the management cannot longer neglect what has been prescribed by the Supreme Court of the United States to be 'its plain duty.'

"During the last few years there has been a steady increase in the price of everything going into electric railway construction and operation. Our taxes have been

doubled, and other public burdens have fallen heavily on the companies.

"The cost of living has increased, and, while our trainmen have been patient and have not made any request for increase in wages, we feel it is only due to them to give them such advance as the companies can afford on account of increased rates, and we are putting this increase in wages into effect beginning Dec. 1.

"It is a common thought among persons not familiar with the operation of electric railways that electric railways ought to carry passengers for less fare than steam railroads. This idea originated in the early days of electric interurban railroads, when the managements themselves were unable to forecast the future and expected that lower rates would stimulate business to such an extent that low rates would be justified, but they have been disappointed.

"While the laws of Wisconsin permit a railroad fare of 2 cents per mile, our new schedule does not reach that average fare. The management is striving to obtain the necessary income without raising the rates to the limit fixed by law.

"No one has a deeper interest in the growth and prosperity of the communities served than the two companies themselves. Individuals and manufacturing plants may move from one community to another, but a public service company must continue to furnish the best service in its power. We earnestly desire and solicit the good will and friendship of all who do business with us, and we feel the public will respect us more if we establish our properties on a sound financial basis than if we allow them to run down and depreciate and plainly neglect what the highest court in the land has declared a duty to the public.

"In conclusion, we desire to say that the rates established by the new schedules are fully justified by the valuation of the property made by the Wisconsin Tax Commission for taxation purposes and do not depend upon, nor are they made necessary by any unfortunate financial operation or litigation in the past.

"The books of the companies will be open to the public for inspection at any reasonable time, and their examination will convince any of our patrons who care to see them that not only is the increase in rates well warranted now, but that it should have been made long ago."

No general public opposition followed the announcement of the company that an increase in rates would be necessary. In one or two cases where there was individual dissatisfaction proceedings have been instituted before the Railroad Commission of Wisconsin. In one of these cases the decision of the commission upheld the position of the company. An abstract of this decision was published in the *ELECTRIC RAILWAY JOURNAL* of July 29, 1911, page 193. An important paragraph of the decision is as follows:

"The zone system seems to be the only practicable system of interurban rates upon the line operated by the company. The petitioner suggested that a straight rate of 2 cents per mile, such as that charged by steam railroads, would be satisfactory and fair to everyone. It is certain that the respondent company does not come within the provisions of the 2-cent fare law of this State so as to make a rate of more than 2 cents per mile unlawful. Moreover, an interurban line differs greatly from a steam railroad line in the frequency of its stops. A system of rates under which the fare would be 2 cents per mile between any two points at which the respondent's interurban cars might stop would be exceedingly difficult to administer. Instead of collecting a uniform fare throughout the car as each zone point is passed, the conductor would have to keep track of each passenger's trip, in addition to the burden of remembering a large number of distances and fares. The duties of a conductor upon an interurban car are so numerous that any system of fares which would add to them so materially as the 2-cent-a-mile system might seriously overburden him

and interfere with the safety and regularity of operation. Then again, with the present fare in most of the zones averaging something over 2 cents a mile, the respondent company seems unable to earn a fair rate of return, so that a change to the 2-cent-a-mile system would be a reduction in rates which is entirely unwarranted at this time."

Another case is pending before the commission and no decision has been reached.

To represent the feeling of patrons of the company an editorial published by the *Fond du Lac Reporter* on Dec. 17, 1909, entitled, "Trolley Rates Follow Other Things," may be quoted as follows:

NEWSPAPER COMMENT

"The reasons given by the management of the trolley lines for increasing the interurban fares strike us as sound and entitled to credence. This is particularly true of the statement that the pay of the trainmen has not been increased for some time, despite the fact that the cost of living has steadily advanced. The patrons of the line can well afford to pay the extra nickel or dime if the men who run the cars are to derive some of the benefit.

"Under the present system of state supervision it would be a most difficult thing for any public corporation to raise its rates unless they were completely justified, and, therefore, it is practically certain that the increase in fares announced by the trolley companies Thursday is actually necessary to produce an income sufficient to run the business at a profit.

"No one will question that the price of almost everything else has gone up. Why not interurban fares? Unless the fares have been altogether too high in the past, it does not seem unreasonable that they should climb the ladder with everything else. The fact that interurban fares have always been away below those of the steam roads makes the contention that they have been too high untenable."

CHANGES IN RATES

The form of the rate sheet issued by the Wisconsin Electric Railway for interurban lines operating between Oshkosh and Neenah is shown in an accompanying illustration. This states, as will be noted, that under the new fare arrangement no transfers are issued to or received from city lines. The former rates on the interurban lines in comparison with the new rates, may be shown as follows: Oshkosh-Omro line, old rates, three-fare zones of 5 cents each and the privilege of transfer in Oshkosh; new rates, four zones of 5 cents each with no transfers to or from city lines. Oshkosh-Neenah line, old rates, four zones of 5 cents each with privilege of transfer; in Oshkosh new rates, five zones of 5 cents each without transfer to or from city lines. Fond du Lac-Oshkosh interurban line, old rates, five zones of 5 cents each; new rates, seven zones of 5 cents each. Transfers were not given on the last-named line under either the old or the new schedule.

Other changes have been made which have had an effect on the operation of the Wisconsin Electric Railway. In the city of Oshkosh the plan of routing has been changed. All cars are now routed through the central business district and are run from one extreme end of the city to the other. This scheme of routing takes the place of the former plan, which involved the use of loops. The common transfer point formerly maintained at Main and High Streets in Oshkosh has been abandoned. It is found that the elimination of the loop system has avoided confusion which formerly existed at transfer points and has given greater satisfaction because of the elimination of delays on account of missed connections, which, under the former system, were unavoidable at times. The revised schedule of operation affecting the Oshkosh lines in this way was established on Sept. 19, 1909. Its effect may be shown in few figures. During the period from Sept. 19, 1908, to Dec. 31, 1908, the number of fare passengers handled on the Oshkosh city lines was 473,412; the number of transfer passengers was 92,948, or 19.6 per cent of the total fare passengers carried. Dur-

ing the corresponding period of 1909, with the new method of operation, the number of fare passengers handled was 523,685; the number of transfer passengers in this period was 90,160, or 17.2 per cent of the aggregate of fare passengers carried. Thus the traffic under the new system, although greater, was handled more satisfactorily than with the old scheme involving loops.

Nearly all of the revenues of the companies are derived from transportation of passengers. Very little express and mail are carried. Practically the only source, therefore, upon which the companies have had to rely is the passenger traffic. This, to an unusual extent, has been composed of through business on the various interurban divisions. An examination made by George Allison, the comptroller of the

Wisconsin Electric Railway Company

OSHKOSH-NEENAH INTERURBAN LINES

RATE SHEET

To Take Effect January 15th, 1910

| | Murdock St. | Snell's | Cox's | Mear's | Frazier's | Gillingham's | Cemetery | Commercial St., Neenah. |
|------------------------|-------------|---------|-------|--------|-----------|--------------|----------|-------------------------|
| 25th Street, Oshkosh. | | 10 | 10 | 15 | 15 | 20 | 20 | 25 |
| Murdock Street | 5 | 5 | 10 | 10 | 15 | 20 | 25 | |
| Snell's Corners | | 5 | 10 | 10 | 15 | 20 | 20 | |
| Cox's Corners | | | 5 | 5 | 10 | 15 | 20 | |
| Mear's | | | | | 5 | 10 | 15 | 20 |
| Frazier's | | | | | | 5 | 10 | 15 |
| Gillingham's | | | | | | | 5 | 10 |
| Cemetery | | | | | | | | |
| Commercial St., Neenah | | | | | | | | |

The line of the Eastern Wisconsin Railway & Light Company terminates at the corner of Main and High Streets in Oshkosh, and the line of the Wisconsin Electric Railway Company runs northward from that point. Arrangement has been made by the Eastern Wisconsin Railway & Light Company by which passengers traveling over the lines of the Eastern Wisconsin Railway & Light Company to or from Oshkosh will be transported to or from the northerly city limits over the lines of the Wisconsin Electric Railway Company, thus making the northerly fare point for the zone, which includes the City of Oshkosh, Murdock street, instead of High Street as heretofore.

By similar arrangement, the Eastern Wisconsin Railway & Light Company transports over its line to or from the south city limits passengers traveling on interurban cars over the lines of the Wisconsin Electric Railway Company to or from points north of Oshkosh.

J. P. PULLIAM,
Manager Railway Dept.

No transfers will be issued to or received from city lines.

New Rate Sheet of Wisconsin Electric Railway

companies, showed that on the division which connects Oshkosh and Omro 77 per cent of the passengers carried were those who traveled the entire distance from one terminal to the other. The remaining passengers, constituting 23 per cent of the total, traveled either to or from intermediate stations. An examination made at the same time regarding the results of operation on the Neenah-Oshkosh division showed that 67 per cent of the passengers traveled from one terminal to the other. About the same results are shown on the Fond du Lac-Oshkosh division.

FINANCIAL RESULTS OF CHANGES

Definite financial results have followed the establishment of the increased rates of fare. The totals of revenue pas-

TABLE I.—CHANGES IN EARNINGS ON INTERURBAN LINES. Eastern Wisconsin Railway & Light Company—Fond du Lac-Oshkosh Division.

| Year Ended Dec. 31. | 1910. | 1909. |
|---|-------------|-------------|
| Revenue passengers..... | 230,754 | 248,526 |
| Passenger earnings..... | \$56,154.43 | \$49,636.04 |
| Wisconsin Electric Railway—Oshkosh-Neenah Division. | | |
| Revenue passengers..... | 245,465 | 278,884 |
| Passenger earnings..... | \$43,244.61 | \$37,923.92 |
| Wisconsin Electric Railway—Oshkosh-Omro Division. | | |
| Revenue passengers..... | 155,292 | 160,684 |
| Passenger earnings..... | \$24,669.29 | \$19,943.60 |

sengers carried and gross earnings received therefrom in the calendar year 1909 and 1910 on the three principal interurban divisions of the company are shown in Table I.

These figures show forcibly not only the effect of the change but also the situation in which the company might have found itself on account of the decrease in traffic which has taken place. As a result of the previous experience with decreased fares, placed in effect with the idea that it might stimulate traffic in sufficient density to repay the company well for the unit decrease, Mr. Smith has concluded that slight changes of this nature do not, at least in this territory, affect the volume of business. On the Fond du Lac-Oshkosh line of the Eastern Wisconsin Railway & Light Company, the division which furnishes the highest gross earnings of all in the two Wisconsin companies, 248,526 revenue passengers affording an aggregate revenue of \$49,646.04, were carried in the year 1909. In the year 1910, 230,754 revenue passengers were carried, yielding passenger earnings of \$56,154.43. The average revenue per revenue passenger in 1909 was 19.97 cents; in 1910 it was 24.34 cents. With a decrease of 7.15 per cent in the total of revenue passengers carried the earnings of the company actually increased 13.13 per cent.

On the Wisconsin Electric Railway, the heavier interurban line of the two operated by that company, extending between Oshkosh and Neenah, 278,884 passengers were carried in 1909, yielding passenger earnings of \$37,923.92, or an average of 13.6 cents per passenger. In 1910 245,465 passengers were carried, yielding gross earnings of \$43,244.61, or an average of 17.62 cents. The result of the change in fares on this line was similar to that on the interurban line between Fond du Lac and Oshkosh. The company carried less passengers by 11.98 per cent in 1910 than in 1909, due to changes in business conditions, but the traffic yielded an increased revenue of 14.03 per cent. On the Oshkosh-Omro division, the lightest in traffic of the three interurban lines of the companies, somewhat similar results were shown. The number of revenue passengers carried in 1910 was 3.36 per cent smaller than in 1909, while the earnings were 23.7 per cent greater. The earnings per revenue passenger on this division were 12.41 cents in 1909 and 15.89 cents in 1910.

The total operating revenues on the interurban system of the Wisconsin Electric Railway in the year 1909, including earnings from other sources than passenger traffic, were \$61,126.79, and in 1910 they amounted to \$71,748.80, an increase of \$10,622.01, or 17.4 per cent. The interurban car-mile revenues averaged 23.36 cents in 1909 and 27.53 cents in 1910, an increase of 17.9 per cent. On the city lines of this company the total operating revenues in 1909 were \$93,658.49, and in 1910 they amounted to \$98,316.62, an increase of \$4,658.13 or 5 per cent. The car-mile earnings on the city lines averaged 13.61 cents in 1909 and 14.54 cents in 1910, an increase of 6.8 per cent. This showing of earnings is complicated by the fact that a change in average fares was made on Jan. 15, 1910. On that date the sale of twenty-five tickets for \$1, good on the city lines of Oshkosh, was discontinued. As abundant preliminary notice of this change was given to regular passengers full supplies were purchased in advance of the withdrawal of the tickets. The value of the tickets collected on the city lines in Oshkosh in 1909 was \$17,140.84; in 1910 the corresponding figure was \$9,249.42, leaving a decrease of \$7,891.42. This does not show alone the effect of the withdrawal of the regular city tickets at this rate as workmen's tickets are sold in Oshkosh good at certain hours.

On the system of the Eastern Wisconsin Railway & Light Company no increase has been made in the fares on the lines in the city of Fond du Lac. On the interurban line operated between Fond du Lac and Oshkosh the total operating revenues in 1909 were \$50,635.79. This includes the revenue from other sources than passenger traffic. The corresponding total operating revenues on the line in 1910 were \$57,682.17. The increase was \$7,046.38, or 13.9 per cent. The average car-mile earnings from all sources on this line in 1909 were 22.44 cents, and in 1910 they amounted

to 25.25 cents, an increase of 12.52 per cent. Figures may also be given showing the results of operation by the lines at a later date than is covered in the other statistics. These figures relate to the gross earnings of the city and interurban divisions from Jan. 1 to Oct. 27, 1911, inclusive, as compared with the corresponding period of 1910. Earnings on city lines of the Wisconsin Electric Railway were \$89,417.20 in 1911 as compared with \$80,639.53 in the 1910 period. The increase was \$8,777.67, or 10.9 per cent. On the interurban lines of the Wisconsin Electric Railway the gross earnings in the 1911 period were \$61,990.58, an increase of \$6,404.64 as compared with the corresponding period of the preceding year, or 11.5 per cent. The totals for this company were \$151,407.78 in the 1911 period as compared with \$136,225.47 in the 1910 period, a gain of 11.1 per cent. The total car mileage run on the lines of this company during this period was a little less in the 1911 period than in the period for 1910 for which the figures are given.

On the Eastern Wisconsin Railway & Light Company passenger earnings have been decreasing as a result of changes in business conditions affecting the territory served. On the city lines of this company gross earnings in the period from Jan 1 to Oct. 27, 1911, inclusive, were \$42,205.76, a decrease of \$578.89, or 0.1 per cent from the corresponding period of the preceding year. On the interurban line between Oshkosh and Fond du Lac the total revenues for the 1911 period mentioned were \$44,794.08 as compared with \$45,803.87, a decrease of \$1,009.79, or 2.2 per cent. The total revenue amounted during the 1911 period to \$86,999.84 as compared with \$88,588.52 in the previous period, a decrease of \$1,588.68, or 1.8 per cent.

OPERATIONS DURING THREE-YEAR PERIOD

Further details of the results of operation may be shown in Table II published herewith in reference to the complete

| Year Ended June 30. | 1911. | 1910. | 1909. |
|---|--------------|--------------|--------------|
| Total operating revenues..... | \$179,362.56 | \$160,814.92 | \$153,977.60 |
| Oper. exp. & taxes, excl. depreciation. | 124,253.29 | 117,922.81 | 118,446.88 |
| Net operating revenues..... | \$55,109.27 | \$42,892.11 | \$35,530.72 |
| Non-operating revenues..... | 427.37 | 825.63 | 2,545.42 |
| Gross income..... | \$55,536.64 | \$43,717.74 | \$38,076.14 |
| Interest | 39,373.49 | 38,926.51 | 23,213.98 |
| Net income..... | \$16,163.15 | \$4,791.23 | \$14,862.16 |
| Total passengers car miles run.... | 956,269 | 933,088 | 983,969 |
| Fare passengers carried..... | 2,562,998 | 2,443,098 | 2,404,434 |
| Transfer passengers carried..... | 431,449 | 432,326 | 421,072 |
| Free passengers carried..... | 12,041 | 8,656 | 12,133 |
| Total passengers carried..... | 3,006,488 | 2,884,080 | 2,837,639 |
| Per cent transfers issued..... | 14.3 | 14.9 | 15 |

results of operation of the Wisconsin Electric Railway Company in the years 1909, 1910 and 1911. These figures show a larger operating revenue in 1911 than in the preceding years. Operating expenses and taxes, excluding depreciation, for which no provision has yet been made by either company except as it is included in the surplus fund, were also greater in 1911 than in the two preceding years. The net income, however, was larger in the last year. It will also be noted, in reference to the traffic statistics shown at the bottom of Table II, that a decrease has been made in the car miles run. Another point to which attention should be called is the increase in the total number of fare passengers carried and a decrease in the transfer passengers in

TABLE III.—WISCONSIN ELECTRIC RAILWAY—EARNINGS PER PASSENGER CAR MILE, CENTS.

| Year Ended June 30. | 1911. | 1910. | 1909. |
|--|-------|-------|-------|
| Total operating revenues..... | 18.76 | 17.23 | 15.65 |
| Operating expenses and taxes, excluding depreciation | 12.99 | 12.64 | 12.04 |
| Net operating revenues..... | 5.77 | 4.59 | 3.61 |
| Non-operating revenues..... | .04 | .09 | .26 |
| Gross income..... | 5.81 | 4.68 | 3.87 |
| Interest | 4.12 | 4.17 | 2.36 |
| Net income..... | 1.69 | .51 | 1.51 |

the fiscal year 1911 as compared with 1910. There has been a slight reduction each year in the proportion of fare passengers using transfers. In Table III, published here-

management hoped the increase in earnings might continue, so as to put the company on a sound financial basis and permit it to maintain that good service which is now given, but the revenue for the current year has shown no increase over last year, while depreciation and expenses have increased, and the net revenues are not now sufficient to keep this property in that good condition which will enable the management to comply with the reasonable demands of the public as to service.

"The new rate schedule will establish a through fare of 30 cents instead of 25 cents, as at present, and in making this plain statement of facts to the public the management believes our patrons will fully approve and commend its action as a necessary business proposition. The management has been slow to make even this slight change in rate, desiring to allow ample time to demonstrate whether or not the old rate could be continued. Electric railways in other parts of the United States have been forced to raise their fares. In Massachusetts even city fares have in some cases been made as high as 6 cents, and it has been found no more possible to establish arbitrary rates for electric railway fares than to establish a fixed price for any manufactured article or for the produce of the farm.

"The company's franchises in Dixon and Sterling authorize a 5-cent fare in both cities. The distance from the city limits of Dixon to the city limits of Sterling is 11.31 miles, so that the fare between these limits authorized by law is 23 cents, thus permitting a total fare of 33 cents. Transfers are given in both cities and the distance that may be traveled on a through fare from Dixon to Sterling is 15.8 miles, so that the new rate is below the rate authorized by law, both under the franchises and on a mileage basis.

"The management will endeavor to make every proper economy without impairing service and thus try to avoid any further change in passenger rates in the near future.

"In a further effort to place all the patrons of this company on an equal basis and to avoid any further changes in the fare schedule, no free transportation will hereafter be furnished to any person except those in the employment of the company. A large proportion of those now holding free transportation are undoubtedly entitled to receive it on account of services rendered to the company, but others have abused the privilege, and the demand for free transportation by persons who base their claims on even the smallest kind of service has become so pressing that it has become necessary to discontinue its use entirely by all except employees. This ruling is in accordance with the new laws regulating public utilities in New York, Massachusetts, Wisconsin and other states where it is held to be against public policy to furnish free transportation except to officers and employees, and either giving or accepting such transportation is punishable by fine or imprisonment. This subject has been discussed by the management with a number of the present holders of free transportation and they have not only cheerfully agreed with the new policy but have unhesitatingly advised a firm step in this direction.

"The officers and directors of this company desire to take this opportunity of expressing their deep appreciation of the very kindly feeling prevailing between the company and the citizens of Sterling, Dixon and the territory tributary to the company's lines."

Changes in business conditions in the territory served by this company have reduced the traffic. However, the decline in revenue, as a result of the advance in fares, has not been nearly so great as in the number of passengers carried. In the nine months ended Sept. 30, 1911, the total operating revenue was \$29,823.50, as compared with \$31,941.17 in the corresponding period of the previous year. This is a decrease of \$2,117.67 or 6.6 per cent. The total number of fare passengers carried in the nine months ended Sept. 30, 1911, was 146,195 as compared with 177,725 in the corresponding period of 1910. The decrease is 31,-

530 or 17.7 per cent. Earnings per car mile were 22 cents in the 1911 period and 23 cents in the 1910 period. The decrease is equal to 4.3 per cent. There was a reduction of 1.8 per cent in the number of car miles run in the 1911 period as compared with 1910. The total of car miles in the nine months of this year was 135,762 as compared with 138,252.

CONVENTION OF THE PENNSYLVANIA STREET RAILWAY ASSOCIATION

Upward of a score of representatives of the forty-two companies holding membership in the Pennsylvania Street Railway Association attended the annual meeting held in the assembly room of the Harrisburg Club, Dec. 8. The meeting opened with a business session at 11 a. m., at which the various reports of President Charles O. Kruger, Secretary Henry M. Stine and Treasurer W. H. Lanius were read, showing the association to be in a healthy state in every respect.

These officers for 1912 were elected: President, H. R. Fehr, president Easton Transit Company; vice-president, W. A. Rigg, vice-president Reading Transit Company; secretary, Dr. Henry M. Stine, Harrisburg (re-election); treasurer, W. H. Lanius, president Hanover & McSherrystown Street Railway Company (re-election); executive committee, H. R. Fehr, W. A. Rigg, T. B. Donnelly, West Penn Traction Company; Edgar A. Titzel, general manager Conestoga Traction Company, Lancaster; R. P. Stevens, president Lehigh Valley Transit Company, Allentown; John F. Whitaker, president Lewistown, Milton & Watertown Passenger Railway Company. Mr. Whitaker is a resident of Harrisburg.

Much interest was manifested in the presentation of a paper by S. R. Hipple, of Williamsport, general manager of the Simplex Surface Contact Company, on "The Value and Uses of the Surface Contact System." This paper was afterward generally discussed by those present. An abstract of this paper follows:

SIMPLEX SURFACE CONTACT SYSTEM

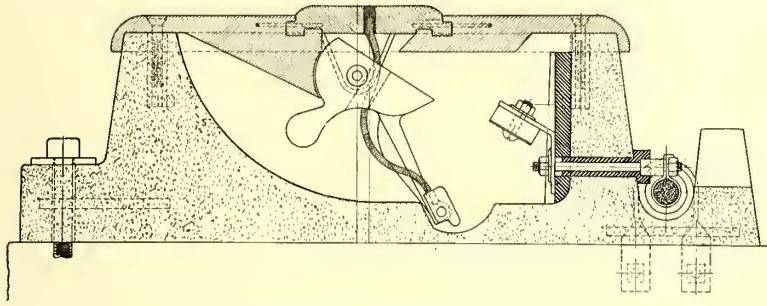
Mr. Hipple prefaced his description of the Simplex surface contact system with a brief summary of the early



Contact Boxes in Straight Track

attempts to design a satisfactory type of contact switching device. In the first experiments made by his company a section of the Lewistown, Milton & Watertown Passenger Railway was equipped with iron contact boxes containing two movable pole pieces and a rotating armature. This type of box was superseded by a solid brass box containing two fixed iron pole pieces and a rotating armature carry-

ing a brass contact piece which made contact with a fixed carbon brush connected to the feeder cable. The experimental car was equipped with two magnet bars made of Norway iron 20 ft. long, 2 in. wide and 1 in. thick suspended from the motor cases with wood insulators. Each of these bars carried three magnet coils each composed of 20 lb. of No. 19 cotton-covered wire inclosed in

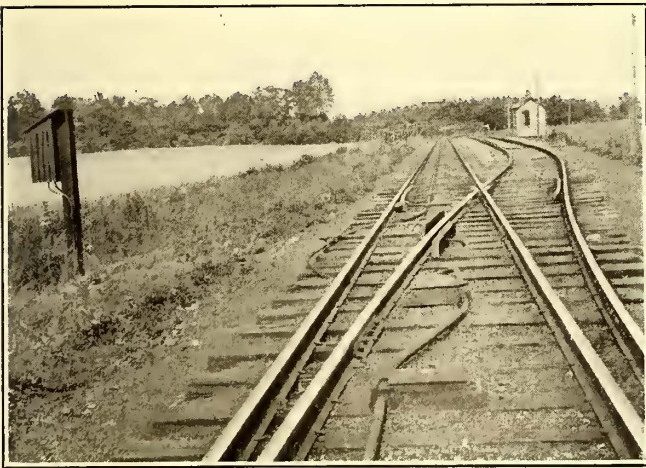


Cross-Section Through Contact Box

a sealed copper shell. The collector shoe was a long copper bar attached between the magnet bars and arranged to permit of a vertical movement of 3 in. The magnet coils were connected in series with the collector shoe.

This improved equipment was installed and put in service on April 7, 1909, and was in use until June, 1910. The experimental line was $\frac{1}{4}$ mile long and in one month as many as 1722 trips were made over the line. In the fourteen months of service the only failures were twenty broken carbon contacts caused by the impact of the armatures. After considerable experimenting "Le Carbone" brushes were adopted, as they were found in perfect condition after a test of more than 300,000 contacts.

As the result of this test the Lewisburg & Tyrone branch of the Pennsylvania Railroad, 10 miles long, was equipped with the system early in 1911 and has been in operation for the last six months. The contact boxes used in this installation are made of reinforced concrete molded under pressure. The lid is made of cast iron with a brass contact piece inserted on the top surface. The boxes can be made for less than \$3 each. These boxes are bolted on top of the ties between the rails at intervals of 10 ft. and are connected to a copper strand, paper-insulated, lead-covered cable inclosed in a $1\frac{1}{4}$ -in. iron pipe conduit. The car used on this branch is equipped with the type of magnet



Arrangement of Wooden Guard Rails at Switch

bars and collector shoe described above. It is a single-truck car weighing 8 tons and equipped with two GE-1000 motors. A $\frac{1}{8}$ -kw hand generator is mounted on each platform of the car to enable the motorman to energize an auxiliary magnet in order to operate the contact switches and pick up the current after it has been temporarily cut off at the power house.

The Lewisburg & Tyrone branch has six switches leading into sidings over which the car must pass. In order to prevent the loss of current while passing over the lead rail of a switch an auxiliary stud is placed in the center of the track between the adjacent contact boxes. This stud is energized automatically when the car passes over the switch by means of a solenoid switch mounted in a box on a short post at one side of the track. To prevent a short circuit between the collector shoe and the lead rail two wooden guard rails are used. This construction is shown in one of the accompanying engravings.

Tests of energy consumption on the Lewisburg & Tyrone branch show that the 8-ton car consumes 1 kw-hour per mile on a run of 10 miles, including eight stops.

CONCLUDING BUSINESS

A general discussion of the work of the association concluded the session. It was generally agreed that the change in the method of assessing the members of the association had proved beneficial. Companies holding membership now pay annual dues according to the amount of their gross receipts, instead of a certain equal amount per member.

The business session was followed by a luncheon at the Harrisburg Club, at which Mayor Royal spoke in the absence of Governor Tener, who was prevented from accepting the association's invitation because of pressure of public business. The Mayor, who has held office only a few days, stated that he was pleased to have the opportunity of getting somewhere where he was not pestered by office-seekers.

HEARING ON HEATING AND VENTILATING CARS IN NEW YORK CITY

The Public Service Commission of New York, First District, held a hearing on Dec. 8 on a proposed order to regulate heating and ventilation of surface, elevated and subway cars. This is a reopening of the former case which resulted in an order issued Nov. 24, 1910, requiring the temperature of closed cars to be maintained between 40 deg. and 65 deg. Fahr. whenever the outside temperature is less than 40 deg. Three witnesses complained that the surface cars were badly ventilated and that the previous order of the commission with regard to heating was not being obeyed. E. G. Connette, transportation engineer for the commission, described the methods of ventilating cars which had been tested in Chicago and read into the record the city ordinance of Chicago relating to standards of ventilation required in all cars operated in that city. He advocated a system of forced ventilation and heating of the fresh air as it is taken into the car.

James L. Quackenbush, counsel for the receivers of the Metropolitan Street Railway, said that on behalf of the receivers he was authorized to say that so far as the question of ventilation was concerned it was the desire of the receivers to continue the experiments they were now making, and it was their desire also to co-operate with the commission or its engineers for the purpose of finding a proper solution of the question. The Metropolitan Street Railway had received no complaints about the heating of its cars.

The hearing was adjourned to Dec. 15.

The electric railway in Rosario, Argentina, was placed in operation in 1906, and that year 2,173,358 passengers were carried. Since then traffic has increased considerably, 27,698,851 tickets being sold in 1910. The total number of tickets sold from 1906 to 1910, not including 5,400,000 passengers who were furnished with passes, amounted to 87,077,642.

Report of Committee on Passenger Traffic

An Abstract of the Report Presented at the Last Quarterly Meeting of the Street Railway Association of the State of New York—Sample Title Pages and Recommendations on Various Subjects

A report of the committee on passenger traffic was presented at the meeting of the Street Railway Association of the State of New York held at Syracuse on Dec. 6. It contains a set of sample forms for passenger tariffs for electric railways, showing various title pages and the arrangement of contents for fare schedules. These were compiled to meet the requirements of the public service commission's law of New York State and the supplementary regulations issued by the New York Public Service Commission, Second District, governing construction of passenger fare schedules and to meet also the requirements of the regulations of the Interstate Commerce Commission, as set forth in tariff circular No. 18A. The report also contains recommendations of the committee for unification of certain matters relating generally to the transportation of persons and property by electric railways.

The committee is composed of the following: J. M. Campbell, chairman; H. C. Allen, R. M. Colt, J. W. Nugent, C. H. Armatage, Charles R. Gowen and B. E. Wilson, secretary.

One page gives special instructions as to paper, type, etc., form and size of tariffs and the manner in which increases and reductions in or omission of fares, charges, rules or regulations should be indicated.

One title page is the proposed form for the first issue of a local tariff. One form shows the title page for the local passenger tariff canceling another tariff. The proposed forms of title page for local passenger tariffs issued on short notice under special permission from the commission or commissions are reproduced. The report also shows a title page for a special excursion tariff limited to a designated period of not more than three days and when the points of origin or destination do not exceed twelve in number. This form of tariff may be established on one day's notice. Typewritten tariffs may be accepted for this form. Similar pages are given for special tariffs limited to a designated period of more than three days and not more than thirty days and when the points of origin and destination do not exceed twelve in number. This form of tariff may be established on three days' notice. Typewritten sheets will also be accepted for this form of tariff.

A proposed form is shown for a title page of a tariff established in compliance with an order of the commission.

The proposed form for order of arrangement of the contents of a local tariff is divided into thirteen sections. These, together with references to recommendations of the committee under various sections, are as follows:

Section 1 is the table of contents which is to follow the order outlined by the commission.

Section 2 is the alphabetical index of points to and from which the tariff applies.

Section 3 is the explanation of reference marks and technical abbreviations.

Section 4 is the explanatory statement of fares and rules governing them.

Section 5 is the statement of rules and regulations governing the tariff. A number of recommendations by the committee are presented with this section. It is recommended that a provision be included stating that fares quoted do not allow stop-over privileges. Under general baggage regulations it is recommended that the railway companies assume no responsibility for the safety and care of baggage or other property when checks are not issued. Under baggage rules the following are recommended:

RECOMMENDED BAGGAGE RULES

"(a) Baggage will be carried only on baggage cars.

"(b) Baggage will not be checked on commutation tickets.

"(c) Baggage will only be accepted and delivered at stations on interurban lines where there is an agent in charge.

"(d) Baggage will not be checked to a point short of destination of ticket.

"(e) Baggage consists only of wearing apparel and such personal effects as may be necessary for the use and comfort of passengers while traveling; but sample or commercial baggage, tool chests and peddlers' packs may be checked subject to same conditions as ordinary baggage (see paragraph j).

"(f) No money, jewelry or other valuables, perishable property, furniture, machinery or articles of like nature will be received as baggage shipment.

"(g) Boxes, barrels, bundles of dry goods, castings, machinery and articles of like nature, which are not properly 'personal baggage,' must not be checked or carried in baggage cars, but sent by freight or express.

"(h) Parcels, umbrellas, clothing and other articles attached to baggage must be detached and delivered to owner before baggage is checked.

"(i) 150 lb. of personal baggage will be checked free on each whole ticket and 75 lb. on each half ticket.

"(j) No single piece of baggage weighing in excess of 250 lb. will be checked.

"(k) Baggage agents will require passengers to show their tickets before checking baggage and will not under any circumstances check to points beyond the destination of the ticket, or by any other route than that by which ticket reads. On passes, or combination of tickets and passes, baggage may be checked through to destination, except in cases where transfer is required at junction stations, then baggage should not be checked beyond such stations.

"(l) When checking a piece of baggage the strap and duplicate checks must match and the destination of same must correspond with that printed on ticket held by passenger."

Careful instructions as to collection for excess baggage are included and a full statement is made as to the baggage liability of the company and storage of unclaimed baggage. The committee advises a charge in all cases for parcel checking. A reference to the redemption of unused or partially used tickets is included.

This section also contains extracts from the law relating to the compilation of fare tables. It says that a joint fare may not be made which includes hotel accommodations or admissions to entertainments. Tariffs may contain such fares, but must show separately the carrier's portion of such fares and this portion of fares must be alike to all regardless of whether or not the passenger purchases a ticket including the other accommodations mentioned.

ONE-WAY FARES

Section 6 includes rules and regulations governing one-way fares. The recommendations of the committee relating to children are that not to exceed three children under five years of age when accompanied by an adult be carried free and that regular half fare be charged for each additional child. Children between five and twelve years of age should be charged one-half the one-way regular adult fare. No fare should be less than 5 cents unless there is a franchise restriction. The issue of transfers

should be governed by such regulations as are local to the issuing carrier. It is recommended that for all cash fares amounting to 11 cents or over a duplex ticket be issued by the conductor to each passenger with an excess of 5 cents, the excess to be refunded to the passenger at any ticket office upon surrender of the receipt within three months of the date of issue.

Section 7 contains rules and regulations governing round-trip fares. The recommendations are the same as under Section 6.

Section 8, relating to commutation ticket fares, contains the recommendations of the committee that a forty-six-trip school ticket be sold subject to certain protective conditions and with the provision that the tickets are not to be accepted on Saturdays, Sundays or legal holidays. The committee recommended that a fifty-four-trip, non-trans-

required for use during the lay-over time an additional charge of \$5 per hour should be made. The cars should be chartered, the committee recommends, on the express condition that not more than a certain number of passengers be carried for the amount and that for any additional passengers a pro rata charge should be made.

Section 11 relates to the charge for transportation of dogs in baggage cars. It is recommended by the committee that this section state that, at the discretion of the company, dogs on chains, when the value does not exceed \$25 and when accompanied by a caretaker, be transported in baggage cars at a minimum charge of 15 cents for a haul not to exceed 15 miles and of 25 cents for any greater distances.

Section 12, applying to the charge for the transportation of corpses, includes the recommendation of the committee

P. S. C.—2 N. Y. No. 2
(Cancelling P. S. C.—2 N. Y. No. 1.)

I. C. C. No. 2
(Cancelling I. C. C. No. 1.)

Only one supplement to this tariff may be in effect at any time.

NEW YORK AND MEXICO RAILWAY

LOCAL PASSENGER TARIFF

APPLYING IN BOTH DIRECTIONS

BETWEEN

POINTS LOCAL TO ISSUING CARRIER

AS SHOWN WITHIN

EFFECTIVE JANUARY 1, 1912.

Issued December 1, 1911

Approved: By J. L. SMITH

M. D. JONES, General Passenger Agent

General Manager Washington, N. Y.

New York Report—Title Page for Model Local Tariff, Second Issue

ferable regular commutation ticket book be sold good for thirty days from the date of sale.

Section 9, relating to mileage books, includes a recommendation of the committee that such books be sold at all stations where ticket offices are maintained and that the rules and regulations governing such tickets be stated. In cases where interchangeable ticket books are accepted a statement to that effect should be shown.

CHARTERED CAR SERVICE

Section 10 states the rules and regulations, including recommendations of the committee, for chartered car rates. It is recommended by the committee that the statement be made that chartered car service is at all times subject to the convenience of the company and that orders of agents are not binding upon the company until accepted by the general passenger agent. Chartered car service should be limited to the time the car is in operation from the start to destination and should not include lay-over time or time between outbound and return trips. If the car is

P. S. C.—2 N. Y. No. 2
(Cancelling P. S. C.—2 N. Y. No. 1.)

I. C. C. No. 2
(Cancelling I. C. C. No. 1.)

Only one supplement to this tariff may be in effect at any time.

(NAME OF COMPANY IN FULL)

IN CONNECTION WITH

PARTICIPATING CARRIERS AS SHOWN WITHIN

JOINT PASSENGER TARIFF

APPLYING FROM

STATIONS ON (Name of Company).....

TO

STATIONS ON (Name of Company).....

STATIONS ON (Name of Company).....

STATIONS ON (Name of Company).....

OR

DESCRIBE, BY STATE NAMES, THE TERRITORY IN WHICH DESTINATIONS ARE LOCATED AS SHOWN WITHIN

Effective (Date).....

Issued (Date).....

Approved: By (Name).....

..... (Name)..... (Title).....

..... (Title)..... (Address).....

New York Report—Title Page for Joint Tariff for More Than Two Companies

that this charge be \$2.50. A passenger should be in charge and a transfer permit from the Board of Health or other proper authority should be furnished. In case of death from contagious diseases the corpse should be accepted only when placed in a hermetically sealed casket.

Section 13 is devoted to the charge for the transportation of newspapers. The committee recommends that arrangements be made for transportation on passenger cars, for delivery at stations where agencies are maintained, of packages of daily newspapers at 25 cents per 100 lb. or fraction thereof. Advertising tracts, weekly newspapers, magazines and pamphlets and similar publications will be handled as express matter only.

A proposed form is shown for a local and joint tariff containing local fares and including arrangements which constitute joint rates. The committee also shows a proposed form for the order of arrangement of contents of such a tariff. Its recommendations are in general the same as those described for the local tariff. A sample

form for a joint tariff for two companies is shown, together with a proposed form for more than two companies. The title page of the latter is reproduced on page 1241. The form for the order of the arrangement of contents of such a tariff is also similar to that shown for the local tariff. The report also gives a proposed form for an inter-division tariff. It states that the use of such tariffs will be optional with carriers and states the order of arrangement of contents.

A complete model for the local tariff, second issue, is shown with a statement of the contents, together with recommendations of the committee. The title page is reproduced on page 1241.

OPINION OF COMMISSION ON WHICH NEW YORK TRANSFER ORDER WAS BASED

Reference has been made previously in the *ELECTRIC RAILWAY JOURNAL* to the order of the Public Service Commission, First District, New York, directing the surface railways which operate in the Borough of Manhattan to restore free transfers at 151 points at which transfers were issued prior to 1908. The history of the proceedings is reviewed in the printed opinion of the commission, just published. On July 11, 1911, the commission, after holding public hearings, adopted an order requiring connecting or intersecting street railways in Manhattan to establish through routes and joint rates either by transfer or the operation of through cars before Aug. 10, 1911. In this connection the commission says:

"The commission directed the companies to fix the rates and to notify the commission on or before Aug. 10, 1911, whether the routes and rates had been established, what the rates would be and what portion of such rate each company or its receiver would receive. At the adjourned hearing on Aug. 5, 1911, it appeared that the companies were willing to establish through routes and a joint rate of 8 cents for one transfer and 10 cents for two transfers, but did not wish to establish this rate and put it into effect if the commission was of the opinion that this rate when established would be unsatisfactory. The commission considered the companies' suggested rate, and the hearing was continued to determine what were just and reasonable rates for through transportation. * * * The suggested 8-cent and 10-cent joint rate was never established by the companies."

Continuing, the commission says in part: "This inquiry has been mainly directed to ascertaining the results of the transfer system in use prior to 1908, what the effect of the curtailment of the transfer privilege has been, and what will be the probable effect of a return to the free transfer system properly restricted. That the curtailment of the transfer privilege in 1908 worked a great hardship to many and was a great inconvenience to many more is shown by the testimony and is generally conceded. Industrially the city had become adjusted upon the basis of a 5-cent fare with free transfers. The failure of the public to use to any considerable extent the 8-cent and 10-cent joint rate now in operation on Fifty-ninth Street convinces us that if transfers are to be ordered between the several companies or systems at all they should be ordered in such a manner as to make possible transportation for a 5-cent fare.

"In 1907 and 1908 receivers were appointed for nearly all the surface lines in Manhattan and, as each line or system was severed from the unified system, transfers were abolished until finally there were 151 points at which passengers who had formerly received transfers were obliged to pay an additional fare. The dismemberment of the system was expected to place the companies upon a sounder financial basis and the curtailment of the transfer privilege was urged as a means of increasing the revenues of the companies.

"The withdrawal of transfer privileges occurred at various dates, the most important changes having taken place on April 11, 1908. The total number of free transfers reported by the combined Manhattan surface companies in each fiscal year from 1907 to 1910 follows: 1907, 194,820,920; 1908, 196,672,167; 1909, 139,607,266; 1910, 139,011,581. The discontinuance of transfers was effected too late in 1908 to reduce the aggregate number of transfers in that year below that of 1907, but its full effect appears in 1909, when the number of transfers was 55,000,000 smaller than in 1907.

"Direct comparison should be made between the fiscal year 1907, when universal transfers were issued, and 1909, during the greater portion of which the limited transfer system was in full operation. The figures in Table I, which was compiled from the sworn reports of the companies, afford the comparison:

TABLE I.—RESULTS IN 1909 AS COMPARED WITH 1907.

| | Year Ended 1907 | June 30, 1909 | |
|-------------------------------|-----------------|---------------|------------------|
| Passenger car miles..... | 57,676,104 | 55,255,497 | Dec. 2,420,607 |
| Free transfers..... | 194,820,920 | 139,607,286 | Dec. 35,213,654 |
| Paying passengers..... | 377,017,192 | 362,077,663 | Dec. 14,939,527 |
| Amount of fares..... | \$18,810,457 | \$17,997,252 | Dec. \$813,205 |
| Operating expenses (total)... | 11,383,557 | 13,326,858 | Inc. 1,943,301 |
| Maintenance | \$2,556,813 | \$4,098,627 | Inc. \$1,541,814 |
| Power supply..... | 1,280,760 | 1,188,413 | Dec. 92,347 |
| Operation of cars..... | 5,045,804 | 5,213,126 | Inc. 167,322 |
| General | 2,500,180 | 2,826,692 | Inc. 326,512 |

DECREASE IN FARE PASSENGERS

"From this comparison, it appears that any expectation which the receivers of the companies, or the court which authorized the abandonment of the transfers, may have entertained that the restriction of transfer privileges would transform millions of free passengers into paying passengers was not fulfilled. Instead of an increase of passenger revenue there was an actual decrease of \$813,205 or approximately 15,000,000 pay passengers.

"If then the roads did not increase their revenue by the relinquishment of transfers, any financial improvement in their operations must be looked for in a reduction of expenses. The foregoing comparison between 1907 and 1909 shows, however, that there was no reduction in operating expenses, but an increase. The causes of such increase are numerous and involved and it is neither profitable nor necessary to enter into a detailed analysis thereof. The 'operation of cars,' however, is in very close direct relation to the amount of car service rendered as expressed in the number of car miles. But notwithstanding a reduction in the car service in 1909 to the extent of 2,420,607 car miles, as compared with 1907, there was no saving in this group of expenses.

"So far as the question of transfers is concerned, it is really unnecessary to discuss the causes of the increase in operating expenses, since there is a much simpler test of the financial consequences of changes in the transfer system. Such changes affect expenses only through the car mileage required to care for the traffic that offers itself. Changes in the volume of traffic will not ordinarily affect the cost per car or per car mile in any considerable degree. The cost per car mile is the same whether the passengers carried are transfer passengers or revenue passengers, and any change in the car-mile cost must be a change due to conditions that would have existed whether transfers were or were not given as before. If any gain in net revenue is to result from a change in the transfer system it must result from an increase in the *passenger receipts per passenger car mile*. The amount of fares remaining the same or increasing, there will be an increase in the passenger receipts per car or car mile with each reduction in the car mileage and a corresponding increase of the net revenue per car mile. No financial gain will be obtained in any other way; and if, therefore, the abolition of transfers benefited the street railway companies that benefit would appear in the ratio of the passenger receipts to passenger

car miles. Both of these items are absolutely definite and not a matter of opinion that could lead to any dispute.

"In 1907, when the free transfer system was in full effect, the companies gave 195,000,000 free transfers, collected \$18,810,457 in fares, and ran 57,676,104 passenger car miles to carry the traffic. The passenger receipts therefore averaged 32.61 cents to the car mile. In 1909 the companies gave only 140,000,000 free transfers, collected less than \$18,000,000 in fares, and operated 55,255,497 passenger car miles. The passenger receipts in 1909 averaged 32.57 cents per car mile, showing a small decrease over 1907.

"The net passenger revenue of the companies so far as it was affected by changes in the transfer system having been approximately the same per car mile in 1909 as in 1907, the total net returns from passenger traffic in 1909 would be reduced in the same proportion that the total car mileage was reduced. As 2,420,607 fewer car miles were operated in 1909, after the reduction in the volume of traffic effected by the restriction of transfer privileges, than in 1907, the total loss in net would amount to approximately \$240,000. This figure is not exact, but is a sufficiently close estimate for all practical purposes.

"But the investment, which receives its return out of net revenue, would not be reduced in anything like the proportion in which car service was reduced. "Fixed charges" are incapable of such close control as wages, fuel and supplies. A large portion of the taxes and even of operating expenses likewise remain constant. This fact explains why the owners of these properties suffered an actual loss as a result of the decrease in net revenue that followed the reduction in the volume of traffic when passengers who had formerly ridden on transfers refused to pay two fares. The majority of such passengers either walked to their

and in many cases has turned operating deficits into surpluses.

REGULATION TO REDUCE ABUSES

"No order of the commission should hamper the companies in their efforts to collect a fare for each separate journey. There is no valid reason whatever why a passenger should expect the establishment of such a loose and unrestricted system of transfers as will permit a round trip to be made for a single fare, and we are confident that the management of the several companies, by proper regulation, can greatly reduce the abuses which existed in 1907. We believe the convenience of the public will be served and that practically all parts of the borough can be reached if the passenger is allowed one transfer to a foreign system and a re-transfer to another line of that foreign system or to another line of the company or system from which he obtained his first transfer. A transfer privilege that will permit of a journey consisting of three separate rides and yet involve only two railroad systems in the division of the 5-cent fare will in our opinion serve the public convenience, facilitate an equitable division of the fare of 5 cents, and in some measure make it easier to prevent an abuse of the transfer privilege. Owing to the fact that transfers are now given from crosstown lines of one system to north and south lines of the same system at points of intersection, the addition of one foreign transfer, by which is meant a transfer to the lines of an independent system, will enable passengers for 5 cents to make a trip to almost any part of the borough. The lines of the same system under the limitation of the transfer privilege outlined above may be used for any two rides of a three-ride journey, and the passenger will be entitled to all transfers now required by law or by agreements of the companies.

TABLE II.—MANHATTAN STREET SURFACE RAILWAYS—OPERATIONS 1907-10.

| Fiscal year ending June 30— | 1907. | 1908. | 1909. | 1910. |
|---|------------------|-----------------|-----------------|--------------------|
| Passenger car miles..... | 57,676,104 | 60,605,040 | 55,255,497 | 55,425,835 |
| Revenue car miles..... | 57,908,873 | 60,719,724 | 55,257,284 | 55,426,013 |
| Transfers (free)..... | 194,820,920 | 196,672,167 | 139,607,266 | 139,011,581 |
| Revenue passengers..... | (a) 377,017,192 | 366,690,345 | 362,077,665 | 375,888,469 |
| Amount of fares..... | \$18,810,457.44 | \$18,228,979.04 | \$17,997,252.35 | \$18,677,788.07 |
| Revenue from transportation..... | 18,860,382.23 | 18,266,160.39 | 17,999,309.11 | 18,678,033.07 |
| Operating expenses, exclusive of maintenance..... | 8,826,744.60 | 9,468,620.20 | 9,228,231.50 | 8,876,933.67 |
| Operating expenses (total)..... | 11,383,557.28 | 13,817,673.34 | 13,326,858.06 | 12,840,596.65 |
| Maintenance of way and street..... | \$945,747.45 | \$1,476,035.89 | \$1,813,015.12 | (b) \$2,369,397.94 |
| Maintenance of equipment..... | (c) 1,611,065.23 | 2,873,017.25 | 2,285,611.44 | 1,594,365.04 |
| Operation of power plant..... | (d) 1,280,760.51 | 1,328,858.94 | 1,188,413.52 | 1,130,701.62 |
| Operation of cars..... | 5,045,803.68 | 5,591,127.36 | 5,213,125.74 | (b) 5,300,073.81 |
| General expenses..... | 2,500,180.41 | 2,549,633.90 | 2,826,692.24 | 2,446,158.24 |

(a) Reports show "passengers carried, including transfers," of an aggregate number of 571,838,112.

(b) The items cleaning and sanding track and removal of snow and ice reported under maintenance of way and structures are here included in operation of cars as in former years (total amount \$311,649).

(c) Includes renewal of horses; other power expenses, variously classified in the returns, are included in operation of power plant.

(d) Less power sold (see also preceding note).

destination from the former transfer point, or took a more roundabout journey (making a longer haul for the street railways), or were driven to the subway or elevated lines.

"The economic principle upon which railroad traffic managers have erected the existing structure of freight rates in the United States is to the effect that all traffic is profitable which reimburses the carriers for the direct costs of movement and leaves a surplus to apply toward the heavy fixed charges of all classes, including maintenance and administration as well as interest. Essentially the same principle underlies the movement in the direction of consolidating the traction companies in New York County and promoting traffic by the establishment of a universal 5-cent fare for a single continuous trip in one general direction. The principle is still followed in Brooklyn, where the net revenues of the companies have steadily increased. It is still followed in the Borough of the Bronx and has brought to the carriers large increases in traffic that are admittedly profitable. The through trip for a single fare has become universal in Chicago quite recently and has contributed to the prosperity of the companies. It has been introduced on the Twenty-eighth & Twenty-ninth Street Crosstown Railroad in the Borough of Manhattan and other lines on which Third Avenue cars are operated,

"We believe that with this limitation transfers should be ordered at the 151 points shown in the schedules attached to the order of July 11, 1911, at the maximum rate of 5 cents for a continuous trip in one general direction. The order should take effect Jan. 1, 1912, and should remain in force one year from the time the said joint rate is actually in operation, and the companies should be directed to agree upon the division of the joint rate and to notify the commission of their agreement not later than Feb. 10, 1912."

The opinion of the commission contains a summary of operation of the street railways in Manhattan for 1907, 1908, 1909 and 1910, shown in Table II.

The Metropolitan Street Railway, Third Avenue Railroad, Second Avenue Railroad and Central Park, North & East River Railroad have all applied to the commission for a rehearing of the case on the grounds that the order is unjust and unwarranted and was made without having due regard to a reasonable return upon the value of the property or the necessity of keeping a reserve fund for renewals and contingencies; also, that enforcement of the order would make it impossible to earn an adequate return on the property or to provide a proper reserve.

On Dec. 13 the commission denied these applications of the companies for a rehearing.

Provisions of the New Detroit Ordinance

Details of the Pending Franchise Contract—Lower Rates of Fare and Relief from Costs of Maintenance of Paving and from Special Forms of Taxation

The new Detroit United Railway ordinance which is now under consideration by the committee on franchises of the Detroit City Council was submitted to the Council on Nov. 28, 1911. As explained in the *ELECTRIC RAILWAY JOURNAL* of Oct. 28, 1911, this ordinance is supplemental to the Detroit railway ordinance, which was approved on Dec. 4, 1894.

Section 1 of the new ordinance declares that the present measure is supplemental and subject to every provision of the ordinance of 1894 and the amendments thereto, except as modified by the new measure. Permission is granted to the Detroit United Railway to construct, own and operate street railways on the streets, avenues and public places in the city now occupied with street railway tracks and on such others as may from time to time be designated by the City Council, and to operate thereon street and interurban passenger and mercantile express cars.

Section 2 says that, except as modified by the new measure, the ordinance of 1894 and amendments continue in full force, and, as so modified, shall determine the rights and obligations of both the city and the grantee under the ordinance.

Section 3 provides that all franchise rights to construct, own and operate street railways within the limits of the city as of 1911, whether perpetual or claimed to be perpetual, indefinite as to termination or in any manner extending beyond 1924, whether held by the grantee or others, shall terminate at midnight on Dec. 4, 1924. All of the franchise rights are otherwise modified as provided in the ordinance. The grantee assumes and guarantees the fulfillment of the obligations of this section.

Section 4 provides that the fare for a single ride shall be 5 cents or a ticket which shall be sold on the cars in strips of six for 25 cents, or, between the hours of 5 a. m. and 8 p. m. or such time as may be adopted by the city, a ticket sold on the cars in strips of eight for 25 cents. A passenger, upon the presentation of a fare, may demand a non-transferable transfer good for a continuous ride over any other route if presented at the first intersecting or established transfer point for the other route within fifteen minutes. The grantee may enforce rules so that no transfer shall entitle the passenger to a return trip.

FARE AND TRANSFER LIMITS

Section 5 stipulates that the fare and transfer provisions are limited to the routes operated by the grantee within the city limits as of the year 1911; routes hereafter constructed and operated within the city limits; routes to and from the present log cabin entrance to Palmer Park, and so much of all routes extending beyond the limits as have now city service cars regularly operated thereon for a single city fare.

Section 6 states that the fare for a single ride over any route or part thereof on any car designated as an interurban car and operating for more than 5 miles beyond the city limits on any regular interurban route shall be 5 cents, and transfer slips to and from such cars shall be given.

In Section 7 it is stipulated that the city shall lay and maintain the pavement and foundations as specified in the ordinance to which this is supplemental, or annually contract therefor, or may require the grantee to lay and maintain the pavement and foundations at the actual cost of labor and material plus 10 per cent for the use of tools and equipment. Should the city neither do the work nor contract with another to do it nor require the grantee to do it, and the necessity for it be admitted by the Department of

Public Works of the city, the grantee under certain conditions may proceed to do the work and its bill shall be paid at the actual cost of labor and material plus 10 per cent for the use of tools and equipment. The city shall from time to time specify the character of the materials and the design and supervise the construction. Should any emergency arise requiring the repair of a foundation and the necessity for it be admitted by the Department of Public Works, if the city does not do the work or require the grantee to do it, the grantee may proceed to do the work and its bill shall be paid at the same rate.

Right to the City Council is reserved under Section 8 to make by ordinance such reasonable rules as may from time to time be deemed necessary to protect the interests, safety, welfare or accommodation and running of cars for the public, provided that the cars on each route shall be run not farther apart than ten minutes except between 10 p. m. and 5 a. m., and provided also that such additional service may be required as the Common Council may ordain and the volume of traffic demand.

For the convenience of the public Section 9 gives the grantee the right to rearrange or change the existing routes, provided that the old routing shall be restored on demand of the Common Council.

CONDITIONS OF CITY PURCHASE

In Section 10 the conditions under which the city is given the right to purchase and the grantee binds itself to sell are set forth. Whenever the city shall be authorized to acquire, own and operate a street railway it shall, after six months' written notice, have the right to purchase as a single system all the railway property existing at the time of purchase necessarily required for the maintenance and operation of all the lines theretofore constructed within the city limits as of 1911, at a price and on terms which shall be agreed upon between the city and grantee or determined by appraisal. The grantee agrees to give a good and marketable title to the railway property. If an agreement upon the purchase price and way of payment has not been reached during the six months following the notice given by the city, a board of appraisal to determine the same shall be appointed, consisting of two members appointed by the grantee, two by the Common Council on the nomination of the Mayor, and one member by the four thus selected. In case of neglect or failure to secure these members, the appointments to the board shall be completed by the Circuit Court of Wayne County.

The conditions by which the board is to be bound in its determination of the purchase price are set forth in Section 11. The date taken for the determination of value shall coincide with the date upon which the purchase price is fixed. It shall not allow any value for any franchise right created by this ordinance. It shall not allow any value for foundations and pavements and change of grade work heretofore constructed or paid for by the grantee or its predecessor other than that value which shall have been fixed by the board of valuation. It shall not allow any value for foundations and pavements and change of grade work to be constructed or paid for by the grantee other than the value agreed upon in the ordinance. It shall value every valid and lawful franchise right obtained prior to and existing at the date of passage of this ordinance, but in no case to a date beyond Dec. 4, 1924. It shall allow for land included in the railway property its fair market value. It shall allow for all other property, including buildings, its fair value for street railway purposes, taking into consideration cost and natural depreciation.

The board shall require the city to pay the purchase price as follows: (a) In cash, or (b) partly by assuming mortgage lien less than purchase price and remainder in cash, or (c) by assuming a mortgage lien equal to purchase price, or (d) by assuming of a mortgage lien greater than purchase price so much as will equal the purchase price when the grantee assumes the remainder and gives security to the satisfaction of the board for the city's protection against the remainder. The grantee has the right to elect which of these ways of payment will be required. The purchase price and terms agreed upon shall be binding on both parties and shall be submitted to a referendum vote. If this vote disapproves the terms, the right to purchase shall continue as if no action had been taken. If the award is approved by the vote, the board shall reconvene and survey the property to adjust the price in accordance with changes made in the interval. If the grantee refuses to comply with these provisions or to proceed with the appraisal of the railway property it is agreed that the Circuit Court of Wayne County, sitting as appraisers upon application of the city, may determine the value and the way of payment. Certain conditions are named which will be effective in case the city should acquire and hold the property for a while and then restore it to the grantee. The grantee, within six months after approval of the ordinance, shall file with the city comptroller a bond to run until Dec. 4, 1924, to the city of Detroit in the sum of \$1,000,000 on the condition that this sum shall be paid to the city as damages if, upon default in making tender, as provided, possession of the property is not given on demand to the city or if, the city being in possession either under terms of purchase or because of the failure of the grantee to make a tender, and the city not being in default on the terms of purchase, possession by the city shall be lost by reason of the failure of the grantee to protect the possession of the city from any mortgage lien on railway property not assumed by the city.

It is further stipulated that the grantee shall pay to the city \$5,000 as damages for each day that the city, after payment, is prevented from possessing itself of the property.

In Section 12 it is stipulated that the right to purchase and the agreement to sell are continuing, and that if by Dec. 4, 1924, the city has not purchased the property, the right to do so shall continue so long as the city permits the grantee to operate its cars in the city.

Section 13 provides that the right to purchase shall not be construed as giving to the city any present right in the property.

PAVEMENT A CAPITAL INVESTMENT

In Section 14 it is stated that the pavements and foundations and change of grade-work existing in 1911 and heretofore constructed or paid for by the grantee or its predecessors, and such as may be hereafter constructed or paid for by the grantee, shall be considered as a capital investment by the grantee, and if the railway property is purchased by the city the grantee shall be reimbursed for that investment. The city's obligation to maintain and repair foundations and pavements when this ordinance goes into effect immediately applies to all existing foundations and pavements.

Section 15 states that within one year after the adoption of the ordinance the city and the grantee shall determine by a board of valuation the present value of the foundations, pavements and change of grade work within the city limits heretofore constructed or paid for by the grantee or its predecessors. This value shall be the capital investment therefor.

In Section 16 the membership of this board of valuation is described. One member shall be appointed by the Common Council on the nomination of the Mayor, one by the grantee, and the third by the two thus chosen. Failure to make appointments or fill the place of the third member

shall call for action by the Circuit Court of Wayne County.

Section 17 states that if the city purchases the property the purchase price shall, with interest, include the actual cost of labor and material, plus 10 per cent for the use of tools and equipment, for foundations and pavement hereafter constructed at the expense of the grantee under its legal obligation or under the terms of the ordinance to which this is supplemental, or under the terms of the agreement made for additional tracks in 1911.

Section 18 says that the grantee may construct all necessary switches or single track lines, cross-overs, etc., necessary or proper for the operation of its lines or to connect the tracks with carhouses, shops, etc. It may connect at points of intersection with suitable curves all tracks constructed, maintained and operated by it.

The terms on which interurban passenger and mercantile express cars from interurban lines of the grantee shall be permitted to enter and leave over the city lines, in case of city purchase, are given in Section 19. This right extends until Dec. 4, 1924. The city shall, while the interurban passenger cars are operated over its lines, man them, collect and retain the fares for passage on its lines and pay to the grantee a rental of 2½ cents per car mile for use of the cars. The grantee shall, at its own expense, man the express cars, conduct the express business and pay the city a rental of 15 cents a car mile for the right to operate over the city lines.

Section 20 provides that the grantee shall at its own expense change the grade of its right of way wherever the Common Council shall direct a separation of grades. It shall perform the work of removing tracks and trolley wires and of the reconstruction thereof, including pavement between the outer rails of the tracks, and shall also bear its equal proportion, based upon the number of railway companies engaged in the work, of the cost of sub-drainage and sub-work and laying and relaying of any pipes made necessary by the change of grade. If the city purchases the railway property, the price shall, without interest, include the actual outlay therefor, if done by contract, or the actual cost of labor and material plus 10 per cent for the use of tools and equipment of all work hereafter occasioned by such change of grade, whether done under this ordinance or under the contract for a general separation of grades entered into between the parties on or about June 30, 1903.

Section 21 states that all work performed by the grantee in streets, avenues and public places shall be under the supervision of the Department of Public Works.

RESTRICTIONS AS TO TAXES

Section 22 says that the grantee shall pay taxes on its real estate and personal property, including rolling stock, tracks, wires, poles and motors, the same as an individual, provided, however, that in consideration of the reduced rate of fare fixed by the ordinance and the right to purchase and the agreement to sell and other valuable considerations the franchise granted by the ordinance or any existing franchise, earnings, foundations and pavements of the railway shall in no manner be subject to taxation by the city; nor shall any license fee, express car or interurban car fee, rental fee or other tax to which the real and personal property of individuals is not subjected be laid by the city.

Section 23 provides that the grantee shall complete in 1912 certain additions agreed upon in 1911 and construct certain other lines. Thereafter the grantee shall construct and operate within the limits of the city, as of the year 1911, such lines of railway on other streets and such extensions of or connections with existing lines as the Common Council may demand on a two-thirds vote, and which as to engineering practicability shall be certified by the city engineer, provided the demand in miles shall not exceed an average of 5 per cent per annum of the then existing city street railway system.

Section 24 provides that the grantee shall do the paving on certain streets in 1912 at its own expense. If the city purchases the property, the purchase price shall, without interest, include the actual cost of labor and material for this work plus 10 per cent for the use of tools and equipment.

Provision for street railway facilities to and from the new Michigan Central Railroad station is authorized by Section 25.

LITIGATION TO BE DISCONTINUED

By Section 26 all claims in dispute between the parties are, in consideration of the agreement, canceled. All litigation between the parties shall be discontinued and the grantee is obligated under the agreement to obtain discontinuance within ninety days of the suit instituted by the Guaranty Trust Company of New York against the city of Detroit and other defendants.

Section 27 states that the grantee shall have no property right in foundations and pavements hereafter constructed at the city's expense beyond that expressly stated.

It is stipulated in Section 28 that if the city acquires the railway in any manner other than as provided in the ordinance no value shall be placed on this grant, but the grantee shall be entitled to the value of any existing and previously obtained grant to the same extent as if this grant had not been made.

Sections 29 to 32 relate to the exercise of the powers and duties by city officers or boards substituted by law for those now existing, the right of the grantee to transfer privileges to successors, the protection of the rights of the city if any present disabilities shall be removed hereafter, and the right of either party to record the ordinance.

Section 33 makes punishable upon conviction by a fine of not to exceed \$300 and costs any violation of the requirements of the ordinance.

In Section 34 it is stipulated that the agreement is indivisible.

The ordinance, according to Section 31, is to take effect thirty days after approval by a referendum vote, if the grantee, within ten days, files its written acceptance and delivers a bond of \$100,000.

PROGRESS BULLETIN ON THE KEOKUK DAM

The Mississippi River Power Company, Keokuk, Ia., has just issued its Bulletin No. 4. It shows in a very comprehensive way the progress that has been made on the great undertaking of this company up to Nov. 15, 1911, and contains thirty-two pages of photographs and descriptive matter. One interesting fact noted is that the construction work on both the Illinois and Iowa divisions of the water-power is proceeding rapidly, although the river is higher at this time of year than it has been since October, 1881. This high stage of water was anticipated on the Iowa division, where the cofferdam surrounding the power house and lock site was built to withstand all ordinary floods. The cofferdams on the Illinois division are much smaller, with a full expectation that the ordinary rise in the river will overflow them and temporarily interrupt the progress of the work. The construction of the piers and arches of the dam is so far advanced that these interruptions cannot delay the completion of the entire plant. Already sixty-nine of the 119 arches have been completed. The construction of the power house substructure on the Iowa division is progressing up to expectation, and about one-half of the foundation is now complete.

Notwithstanding the strike, which is estimated to have entailed the loss of \$15,000, the receipts of the municipal tramways of Johannesburg, S. A., for 1910-11 totaled \$1,560,000. Passengers increased from 5,707,588 to 6,840,518, and the miles run from 582,687 to 711,120.

REPORT OF THE RAILROAD SECURITIES COMMISSION

The report of the Railroad Securities Commission, appointed in August, 1910, to investigate questions pertaining to the issuance of stocks and bonds by railroad corporations, was transmitted to Congress on Dec. 11. In his letter of transmittal to Congress President Taft states that he heartily concurs in the recommendations it contains and urges that appropriate action be taken to carry these recommendations into effect. The commission was composed of Arthur T. Hadley, chairman; Frederick N. Judson, Frederick Strauss, Walter L. Fisher, Balthasar H. Meyer and William E. S. Griswold, secretary.

In the letter transmitting the report to the President, Chairman Hadley states that the commission has not considered the comparative merits of governmental ownership of railroads and private ownership under governmental regulation, nor has it attempted to enter into the discussion regarding control of railroad rates, except as to their relation to the issue of securities. The report of the commission is brief. An abstract follows:

"While for brevity the language of the report is confined largely to railroads, the discussion and recommendations apply generally to the other agencies of communication and transportation enumerated in the act to regulate commerce.

"As far as concerns the immediate action of Congress, we believe that stringent provisions regarding publicity of stock and bond issues, which will show how far the laws are obeyed and will enable the federal government to hold the railroad officials responsible for the consequence of not obeying them, will be more salutary and more effective than any new statutory demands. We also believe, however, that the time is near when the difficulties of the present system of dual control by federal and state governments and the conflict of state laws will become so manifest that further legislation on the subject will be imperative.

"If the owner of stock, having a certain share in the ownership of the property, acted unwisely and fared badly, he has no claim that the public should indemnify him. If he did well, the public cannot either rightly or wisely fail to recognize and reward his foresight, so long as his road is managed with proper regard to the interest of the community and for the development of the traffic which it carries. The tendency to ignore the conditions under which stock is issued has led lawmakers to lay too much stress on keeping down the nominal amount of stock and too little upon getting the actual amount of capital needed and having it properly used.

"Evasion of the letter or spirit of the law regarding capital stock has been frequent where the strictness of the law has interfered with the construction of railroads in new communities. The liability of evasion of a federal law requiring full payment of all stock issues, without special machinery to enforce it, might be greater than in the past, because in some parts of the country a statutory requirement of this kind imposed by the federal government would be regarded as an interference with the rights of the several states; and local companies attempting to build new lines with stock not fully paid might have the support of local public sentiment in so doing.

"As a mere matter of expediency, the time is not ripe for any immediate or forcible transfer of jurisdiction from the several states to a national authority. In place of any added federal requirements concerning payment for capital stock, the commission recommends the adoption of provisions regarding publicity which will show the actual facts regarding stock and bond issues in the several states and the consideration received therefor. The companies must make it plain to the investor to-day and to the public to-morrow how much of their liability was represented by cash assets contributed and how much consisted of what is called in English balance sheets 'nominal additions to capital.'

"In an effort to secure publicity regarding railroad securities, two courses lie open: Either to require the express sanction of some administrative body, presumably the Interstate Commerce Commission, before such securities are issued, or to rely on general statutory provisions under which the directors may issue such securities and be held responsible for their proper use. Either alternative would involve the valuation of property and services whenever such valuation may become necessary in establishing the integrity of the financial transactions involved. Authorization in advance would tend to create an impression on the part of the investing public of a guarantee or official recognition of values which no administrative authority can safely give. The absence of such recommendation by this commission is intended to make it clear that no such guarantee should be given.

"If a valuation of railroads is made, an attempt to scale down old securities is clearly out of the question. Apart from the obvious constitutional difficulties of such a course, considerations of public expediency of themselves forbid it. The direct loss from the unsettlement of legal and equitable relations would be very great. The indirect loss from the withdrawal of confidence in American railroad investments would be immeasurable.

"One of the evils has been that bondholders were at times deluded into the belief that there was a security behind their bonds which did not exist and that the railroad company was mortgaging a piece of property when it was only capitalizing an expectation.

"It is essential that the stock should be what it purports to be. That is to say, if it purports to represent \$100 paid in on every share, \$100 should be actually paid in. If it purports only to be a participation certificate giving a proportionate interest in any profits that may be earned, it must be understood that this is its essential character, and that if it claims any further rights than this, it must prove them by specific evidence.

"The most important advantages arising from a permissive federal incorporation act would be: (1) The right to construct lines needed for interstate commerce, under proper regard for local needs, but without the agency of local corporate organizations; (2) the right to have rates supervised by a single authority which could pay proper regard to the mutual relations of local traffic and interstate traffic, instead of two separate authorities dealing with the two things independently; (3) an equitable system of taxation which would distribute to the several states their proportionate parts of taxes levied on both the tangible and intangible property of the railroad by a harmonious plan.

"We do not believe that the retention of the \$100 mark, or any other dollar mark, upon the face of the share of stock is of essential importance. The issue of stock without par value offers special facilities for consolidation and reorganization.

"No attempt should be made by statute to limit railroad profits to a fixed percentage or to treat a high cash dividend as necessarily indicating extortion. Railroad charges must be reasonable; but to try to control rates by arbitrarily limiting profits is to put the manager who makes his profit by efficiency and economy on the same level as the one who tries to accomplish the same result through extortionate charges. Scrip, bond and stock dividends should be prohibited.

"The evils of fraudulent promotion are among those which publicity would do much to check. Where there is no fraud the promoter renders a service for which he is entitled to fair remuneration.

"It is possible that the building of additional railroad mileage will be far less rapid in the future than in the past, but the capital needed for the development and improvement of the mileage already existing is enormous. The thousands of millions of dollars needed for these purposes must be raised by the sale of securities.

"Neither the rate of return actually received on the par value of American railroad bonds and stocks to-day nor the security which can be offered for additional railroad investments in the future will make it easy to raise the needed amount of capital. The substitution of electricity for steam is but a type of the many changes which railroads may be compelled to make, any one of which might involve large additions to their cost without the assurance of corresponding additions to their return.

"A reasonable return is one which, under honest accounting and responsible management, will attract the amount of investors' money needed for the development of railroad facilities."

FRANCHISE SETTLEMENT PROPOSAL SUBMITTED TO CITY OF TOLEDO BY COMPANY

The Toledo Railways & Light Company, Toledo, Ohio, presented a plan for the settlement of the franchise question to the city of Toledo on Monday, Dec. 11. The company proposes a sliding scale of fares ranging from a cash fare of 5 cents, or six tickets for 25 cents, and universal transfers to a straight fare of 3 cents within the present city limits, depending upon the profits realized from operation. The valuation of the property is placed at \$8,000,000, and the company is to be entitled to net earnings on this sum at the rate of 8 per cent a year. All surplus which exceeds the amount necessary to meet the operating expenses and the guaranteed return to the company is to be placed in a special fund, and when this fund amounts to \$250,000 a reduction in fare is to be made to seven tickets for 25 cents and universal transfers. If after this reduction in fares the net earnings still exceed the operating expenses and the amount necessary to return 8 per cent on the \$8,000,000 valuation, eight tickets are to be sold for 25 cents, with universal transfers. Whenever the net earnings are not sufficient to return 8 per cent on the valuation the special fund is to be reduced to \$50,000 and the next higher rate of fare is to be put into force.

A feature of the valuation is that it includes only tracks, cars, trolley wires and poles, carhouses and shops. If the figures proposed by the company do not meet with the approval of the city officials it is suggested that the value be determined by a board of appraisers to consist of two members, the city to name one member and the company the other, with Judge John M. Killits as umpire. The finding of this board is to be binding upon both the city and the company. In this matter the company has yielded to the wishes of the city that Judge Killits act as a member of any board of appraisers. The Council will consider the communication from the company on Dec. 15.

The letter of the company to the city follows:

"Pursuant to the request of your special committee, that the Toledo Railways & Light Company make a proposition to the city relative to an extension or renewal of the street railway grants of the company, the company submits:

"(a) That it is for the great interest of the community that every person should be carried to his destination, within the city limits, at one fare, without extra charge for transfer, by one company owning and operating all street railway lines in the city, subject to the regulation and under the control of the city.

(b) That the street car riders, who really pay the cost of operation, should not be burdened with any obligation in addition to the ordinary cost of transportation, such as street improvements, maintenance and cleaning of streets, bridge tolls, etc.

"(c) That the company is entitled to net earnings, from the operation of its street railway within the city limits, equivalent to 8 per cent per annum on the cost of reproduction of such street railway.

"The company proposes as follows:

"(a) That the company put into effect a rate of fare, within the present city limits, of a 5-cent cash fare and six tickets for 25 cents, with universal transfers.

"(b) That the company, its successors and assigns, be granted the right, under the terms of this proposal, to operate its street railways for twenty-five years.

"(c) That the company will surrender all its present grants for the operation of its street railways within the city.

"(d) That the valuation of the property used for street railway operation be fixed at \$8,000,000, such street railway property to consist of tracks, cars, trolley wires and poles, carhouses and shops, but shall not include any power house, substation, underground conduits, feeders, park property, etc.

"(e) That if said valuation of \$8,000,000 is not acceptable to the city the grant shall contain a provision for determining the reproduction cost of such railway, to the effect that if the company and the city authorities do not agree upon such reproduction cost within ninety days from the time such grant goes into effect, then a board of appraisers shall be appointed to determine such reproduction cost, said board of appraisers to consist of one appraiser to be named by the city, one appraiser to be named by the company, and the third to be John M. Killits, judge of the United States District Court; the appraisal, in writing, of this board, or any two of them, to be binding upon the city and upon the company as determining the amount on which the company shall be entitled to net earnings at the rate of 8 per cent per annum.

"(f) That the city shall at all times have the right to inspect the books of the company. The items to be charged respectively to operation and to capital account shall be determined by standard systems now in use, subject to such modification as may be agreed upon from time to time by the city and the company.

"(g) That all net earnings of the company, derived from the operation of its street railways within the city limits, over and above an amount equal to 8 per cent per annum on \$8,000,000, or on the valuation determined as above and such additional capital expenditures as may be made from time to time, as hereinafter provided, shall be held as a special fund to be used only as hereinafter provided, and when and if said fund shall reach the sum of \$250,000 the company shall immediately put into effect a lower rate of fare of 5 cents cash fare and seven tickets for 25 cents, with universal transfers.

"If the net earnings, after such reduction in fares, shall still amount to more than 8 per cent per annum on the valuation and capital expenditures as above, then the company shall immediately put into effect a lower rate of fare of 5 cents cash fare and eight tickets for 25 cents, with universal transfers.

"If the net earnings, after such reduction in fare, still amount to more than 8 per cent per annum on the valuation and capital expenditures as above, then the company shall immediately put into effect a lower rate of fare of 5 cents cash fare and five tickets for 15 cents, with universal transfers.

"In the event that at any time any rate of fare (then in effect) does not produce net earnings equal to 8 per cent per annum on the valuation and capital expenditures as above, the deficiency shall be taken by the company out of said special fund until such special fund shall have been reduced to \$50,000, when the company shall then have the right to put into effect forthwith the next highest rate of fare which will produce net earnings equal to 8 per cent per annum on the valuation and capital expenditures as aforesaid, and such fare may be increased from time to time when and if necessary to produce the net earnings as above provided; provided, however, that such rate of fare shall not in any event exceed a 5-cent cash fare and six tickets for 25 cents, with universal transfers.

"(h) That in and by the grant the company shall not be required to pay for bridge tolls, separation of grades at railroad intersections, paving or repaving of streets, street cleaning and sprinkling licenses or other special taxes.

"(i) The city shall at all times have the right to regulate the character of the service, provided, however, that no regulation shall be such as to cause the net earnings of the company with the maximum rate of fare in force allowed for herein to be reduced to an amount less than 8 per cent per annum on the valuation and capital expenditures as aforesaid.

"(j) That the city shall have the right at all times during the term of the grant, on six months' notice, to purchase the railway properties of the company as above defined, at the valuation as agreed upon or determined plus the capital expenditures as aforesaid.

"(k) That the company shall make such improvements and build such extensions, within the city limits, as may be required by the city, the cost thereof to be added to the valuation as herein provided; provided, however, that the company shall not be required to make such improvements or build such extensions within ten years of the expiration of the grant to operate its street railways, or if thereby the net earnings of the company will, with the maximum rate of fare allowed for herein, be reduced to less than 8 per cent per annum on the valuation and capital expenditures as aforesaid.

"(l) That the company shall make such arrangements as to re-routing as the city may authorize, tending to better the service and decrease operating expenses.

"(m) That capital expenditures required, ordered, authorized or approved by the city shall be capitalized to the extent of 80 per cent of their cost, the balance of such cost to be charged to current operating expenses.

"(n) That the company and the city agree as to the price to be paid for electric power for the operation of the railways, and in event of the city and the company not being able to agree as to such price, the price shall be fixed by the above-mentioned board of appraisers, subject to readjustment at the end of each five years.

"(o) That if the city shall not within fifteen years from the taking effect of the grant exercise its option to purchase the railway, the city may renew the grant or make a new grant to the company for a period of twenty-five years on the same terms, which the company shall agree to accept. In event that the grant to the company to operate such railway shall at any time have less than ten years to run, the company shall thereafter have the right to charge, until such renewal or new grant is made, or until the termination of its grant, a 5-cent fare, with universal transfers; provided, however, that during such time all net earnings of the company, over and above the 8 per cent of the valuation and capital expenditures aforesaid, shall be held and used as a sinking fund for the retirement of the bonded indebtedness and capital of the company; and the company shall, if it elects to purchase thereafter, have the right to purchase the railway properties at the valuation and capital expenditures as above, less the amount in which the bonded indebtedness and capital of the company shall have been reduced through the operation of such sinking fund.

"(p) That the Mayor of Toledo, or such other representative of the city as may be provided by the grant, shall at all times be a member of the board of directors of the company owning and operating the street railways under the grant."

The record of passenger train performances on the steam railroads of New York State for October, just issued, shows that during the month the number of trains run was 63,265. Of this number, 84 per cent were on time at the division terminal. The average delay for each late train was 23.8 minutes, and the average delay for each train run was 3.7 minutes.

NEW OFFICERS OF MANUFACTURERS' ASSOCIATION

A meeting of the executive committee of the American Electric Railway Manufacturers' Association was held at the offices of the association, 165 Broadway, New York, on Dec. 15. The principal action taken was the election of officers for the ensuing year. The following were elected: W. L. Conwell, president; James H. McGraw, vice-president in charge of relations with the parent association; C. S. Hawley, vice-president in charge of entertainments; A. H. Sisson, vice-president in charge of finance; E. H. Baker, vice-president in charge of exhibits, and George Keegan, secretary and treasurer.

HYDROELECTRIC POWER EXPANSION IN MASSACHUSETTS

Important changes in the electric power situation in central Massachusetts are foreshadowed by the developments now being carried forward in the Shelburne Falls district by the New England Power Company. The construction of four stations on the Deerfield River, the building of a 2,500,000,000-cu. ft. reservoir near the headwaters of the stream in Vermont and the establishment of a 66,000-volt line between the South Vernon plant of the Connecticut River Transmission Company and the affiliated New England system mark the inauguration later of a service extending from the New York line to within 40 miles of Boston. The operation of the Boston & Maine train service through the electrified Hoosac tunnel by current derived from the Deerfield plants and the readjustment of the present Zylonite turbine station as a steam auxiliary are also features of the development. Until within the last few years Massachusetts has had little opportunity to enjoy the benefits of transmitted water-power, but a decided change has lately come about in the central section of the State. For the most part the local lighting and small power service in this district have been handled by very moderate-sized steam plants, and the electric railways have in the main continued to produce their own electricity, chiefly on the ground of reliability. With the articulation of two large hydroelectric systems and increased opportunity for the energy supply of power from plants connected on reciprocal contractual arrangements the character and low cost of service are likely to attract a wider range of users, including central stations and railway plants of considerable capacity, in addition to the small installations.

PROPOSED ORDER TO STENCIL AND NUMBER POLES IN NEW YORK

As mentioned briefly in the issue of Dec. 2, a hearing on an order requiring street railroad and other corporations to stencil and number their poles and structures for carrying overhead wires was held at Albany before the New York Public Service Commission, Second District, on Nov. 23. The hearing was attended by a number of representatives of electric railways, electric lighting and power companies, steam railways and telegraph and telephone companies.

Porter Norton, counsel International Railway of Buffalo, thought that the proposed requirements might be called unreasonable with respect to the poles of the International system. He said that the company had over 21,000 trolley poles, all distinctive in character. It owns all the railroads in the community in which these poles are located except in one or two streets in Niagara Falls and Buffalo. For this reason there would be no difficulty in identifying the ownership of the poles. The poles were being changed constantly, and such changes would upset the entire system of numbering proposed by the commission.

C. R. Harte, New York, New Haven & Hartford Railroad, said that company believed that the structures should be marked and that, as a matter of fact, the large majority of its structures were marked in some way. The company, however, had systems that in its judgment were best adapted for the particular purposes for which they are used. What was wanted was a definite mark that would identify the pole in the minds of the employees of the company as to its location and a mark by which either the company or the public might distinguish poles readily.

C. L. Addison, Long Island Railroad and affiliated companies, was inclined to believe that it would be unnecessary to number every pole. The Long Island Railroad letters every third pole at present. To letter every fifth pole would afford sufficient information for identification purposes.

George E. Greene, New York & Stamford Railroad and Westchester Street Railroad, described the system by which those companies letter their poles. A letter is used to represent the line, and underneath is the number of the pole. The lines are numbered from the central point or head of the system, extending to the end of the line. If the system extends through several towns, the numbers are consecutive for the entire distance.

Chairman F. W. Stevens, of the commission, in closing the hearing, said that it was desired to have poles marked so that the mark would identify the poles clearly. The purpose was to get the simplest way possible, to occasion as little expense to the companies as possible, to have nothing done unless it was actually needed for some useful purpose and to allow reasonable time in which to do the work. The companies which had suggestions to make in reference to the matter were asked to file them before Jan. 1, 1912.

STATISTICS OF WATER POWER DEVELOPMENT

A brief prepared by the public policy committee of the American Institute of Electrical Engineers and presented at the public hearing before the United States National Waterways Commission, Washington, Nov. 21, contains among other statistics the following interesting data:

"The statistics of water power collected under the direction of Congress several years ago and embodied in the report of the National Conservation Commission of 1909 show that there is at present developed in the United States about 5,000,000 hp of water power.

"The amount of power produced by steam from coal is difficult to estimate, but is considered to be about 27,000,000 hp, and is rapidly increasing, with attendant depletion of coal reserves. A large part of this it is not only possible but easy for water power to replace if it were made freely available through development. Within range of development at a cost of investment that would make the cost of such power about equal to that of steam power, there is still undeveloped in the streams of the United States about 35,000,000 hp.

"Any action by Congress that would accelerate the release of this power would conserve enormous supplies of coal for such domestic and industrial purposes as only coal can supply."

NEXT INTERNATIONAL CONVENTION AT CHRISTIANIA

Secretary P. t'Serstevens, of the International Street & Interurban Railway Association, has just issued an announcement that the 1912 convention of that association is to be held in Christiania, Norway. A cordial invitation to meet in that city has been received from the local railway companies, Kristiania Sporveisselskab, Kristiania elektriske Sporvei, Holmenkollenbahnen, Bergens elektriske Sporvei and Trondhjems elektriske Sporvei.

The date of the convention has not yet been announced.

COMMITTEE ON ACCOUNTS IN NEW JERSEY

A committee representing the electric railway companies in New Jersey has been appointed to consider the tentative uniform system of accounts prepared by the Board of Public Utility Commissioners of that State. The committee was appointed in accordance with the decision of the commission announced at the hearing on Dec. 5, 1911, as reported in last week's issue of the ELECTRIC RAILWAY JOURNAL. It is as follows: C. L. S. Tingley, M. R. Boylan, Frank J. Pryor, Jr., Rankin Johnson and C. B. Cade.

COMPARATIVE COSTS OF TILE AND FIBER CONDUIT

William D. Ligon, engineer in the electrical department of the H. W. Johns-Manville Company, New York, has prepared the striking comparison of the costs of tile and fiber conduits presented in the three accompanying tables. These figures are based upon actual conditions in St. Louis, Chicago and other cities of the Central West, but it is declared that the percentages in favor of fiber conduit would not vary materially elsewhere. As shown in Tables I and II, the cost of constructing multiple duct tile is less than

TABLE I.—COST TO CONSTRUCT MULTIPLE DUCT TILE CONDUIT IN STREETS PAVED WITH GRANITE, OR EQUIVALENT PAVING, EXCLUSIVE OF MANHOLES.

| Duct Sections. | 1 | 2 | 3 | 4 | 8 | 12 | 16 |
|---|------|------|-------|------|-------|-------|-------|
| Excavating, refilling, paving and removing surplus dirt | .230 | .361 | .546 | .397 | .590 | .637 | .791 |
| Concrete | .104 | .131 | .152 | .160 | .243 | .269 | .333 |
| Cost tile delivered | .053 | .106 | .159 | .212 | .424 | .636 | .848 |
| Laying tile | .030 | .040 | .060 | .080 | .160 | .240 | .320 |
| Cleaning ducts | .005 | .010 | .015 | .020 | .040 | .060 | .080 |
| Water, bridging and shoring | .005 | .007 | .010 | .012 | .025 | .030 | .040 |
| Tool repairs and replacement | .010 | .010 | .010 | .012 | .025 | .030 | .040 |
| Incidentals | .010 | .010 | .010 | .010 | .015 | .018 | .024 |
| Supervision, inspection and timekeeping | .036 | .052 | .072 | .072 | .114 | .192 | .247 |
| Total per trench foot | .483 | .727 | 1.034 | .975 | 1.636 | 2.112 | 2.723 |

TABLE II.—COST TO CONSTRUCT SINGLE DUCT TILE CONDUIT IN STREETS PAVED WITH GRANITE, OR EQUIVALENT PAVING, EXCLUSIVE OF MANHOLES.

| Duct Sections. | 1 | 2 | 3 | 4 | 8 | 12 | 16 |
|--|------|------|-------|-------|-------|-------|-------|
| Excavation, refilling, paving and removing surplus earth | .259 | .353 | .494 | .430 | .722 | .788 | .858 |
| Concrete | .105 | .145 | .185 | .192 | .287 | .348 | .412 |
| Cost tile delivered | .054 | .108 | .162 | .216 | .432 | .648 | .864 |
| Laying tile | .030 | .060 | .090 | .120 | .240 | .360 | .480 |
| Cleaning ducts | .005 | .010 | .015 | .020 | .040 | .060 | .080 |
| Water, bridging and shoring | .005 | .007 | .010 | .012 | .025 | .030 | .040 |
| Tool repairs and replacement | .010 | .010 | .010 | .012 | .025 | .030 | .040 |
| Incidentals | .010 | .010 | .010 | .010 | .015 | .018 | .024 |
| Supervision, inspection and timekeeping | .036 | .053 | .073 | .076 | .134 | .171 | .210 |
| Total per trench foot | .514 | .756 | 1.049 | 1.088 | 1.920 | 2.453 | 3.008 |

TABLE III.—COST TO CONSTRUCT FIBER PIPE CONDUIT IN STREETS PAVED WITH GRANITE, OR EQUIVALENT PAVING, EXCLUSIVE OF MANHOLES.

| Duct Sections. | 1 | 2 | 3 | 4 | 8 | 12 | 16 |
|--|------|------|------|------|-------|-------|-------|
| Excavation, refilling, paving and removing surplus earth | .230 | .343 | .431 | .381 | .601 | .655 | .716 |
| Concrete | .090 | .126 | .163 | .175 | .273 | .344 | .417 |
| Cost fiber pipe delivered | .051 | .102 | .153 | .204 | .408 | .612 | .816 |
| Laying fiber pipe | .010 | .020 | .030 | .040 | .080 | .120 | .160 |
| Proving ducts | .003 | .005 | .007 | .010 | .020 | .030 | .040 |
| Water, bridging and shoring | .005 | .007 | .010 | .012 | .025 | .030 | .040 |
| Tool repairs and replacement | .010 | .010 | .010 | .012 | .025 | .030 | .040 |
| Incidentals | .010 | .010 | .010 | .010 | .015 | .018 | .024 |
| Supervision, inspection and timekeeping | .031 | .047 | .061 | .063 | .101 | .138 | .169 |
| Total per trench foot | .440 | .670 | .875 | .907 | 1.548 | 1.977 | 2.422 |

that of constructing single duct tile, owing principally to the less amount of excavating, refilling, paving, dirt disposal and concreting. This saving ranges from \$0.031 to \$0.285 and even more per trench foot, according to the number of ducts. Table III, however, shows that much greater economy is possible by using fiber conduit, the cost per trench foot of one pipe to sixteen-pipe installations ranging from \$0.44 to \$2.422, as compared with \$0.483 to

\$2.723 for the multiple duct tile. This saving is due to the lower cost of the fiber conduit as delivered, to its greater ease in installation, to the elimination of breakage losses and to the simpler connections.

The fiber conduit figured on in these tables is the Johns-Manville J-M type, which was described and illustrated in



Fiber Conduit Installation in Los Angeles.

the ELECTRIC RAILWAY JOURNAL for June 25, 1910. Conduit of this material has now been in use for some eight years. Inspections of the early installations show that this fiber conduit gives every promise that the material will maintain its original qualities for many years to come, as it has remained impervious to moisture, water, gases and other destructive elements.

The accompanying view of an installation in Los Angeles shows part of a 50,000-ft. job composed of sixteen pipes, each of 3-in. diameter.

SIGNALS ON THE FT. DODGE, DES MOINES & SOUTHERN

The Ft. Dodge, Des Moines & Southern Railroad (electric) has made arrangements with the Rock Island Railroad (steam) for the use of about 2 miles of the latter's double track and passenger station in Des Moines, thus securing an entrance into the city for its trains. The track, which is to be used jointly, is now completely equipped with three-position, upper quadrant, automatic block signals operated by primary battery with direct-current track circuits. The signal installation will be changed so as to work on alternating current throughout. Single-phase, 60-cycle current will be used; it will be transmitted at 550 volts and stepped down at the signals to 110 volts for signal operation and about 6 volts for track circuits. Such material as is needed to make the change will be furnished by the General Railway Signal Company and will be installed by the Rock Island Railroad with the regular signal forces. Very few changes will be needed, merely the substitution of a.c. apparatus for d.c.; for example, the signals now in service will be retained, but new mechanisms will be put in the old cases. Power will be supplied from a small power house to be erected by the Rock Island Railroad. Normally power will be taken from the city mains through a transformer, but there will be a generator and gasoline engine in reserve.

The Ft. Dodge, Des Moines & Southern Railroad will connect with the Kansas City Short Line at a point about 1 mile north of the northern city limits of Des Moines and will connect with the Rock Island where the Kansas City Short Line tracks cross the Rock Island at East Des Moines.

News of Electric Railways

Boston Subway Leases Signed

Leases covering the use of the proposed Dorchester tunnel, Boylston Street subway, East Boston tunnel extension and the Cambridge connection have been signed by President William A. Bancroft for the Boston Elevated Railway and by the members of the Boston Transit Commission for the city of Boston. The contracting parties have also signed the proposed extensions of the leases of the present Tremont Street subway, East Boston tunnel and Washington Street tunnel. These leases establish a new contract relation between the city and the Boston Elevated Railway. As provided by Chapter 741 of the Acts of 1911, they provide that the leases of the new subways and tunnels shall run until July 1, 1936. They provide also that the present lease of the Washington Street tunnel, which expires in 1933, shall be extended to 1936; that the lease of the East Boston tunnel, which expires in 1922, shall be extended to 1936, and that the lease of the Tremont Street subway, which is taken from the West End Street Railway, also shall be extended to 1936. Hence the signing of these instruments establishes a uniform lease of all tunnels and subways in Boston, causing them all to terminate conditionally in 1936. Their termination that year is not automatic, however, but is conditioned upon notice given either by the city of Boston or by the Boston Elevated Railway. So long as neither party gives notice of a purpose to have them terminated they will continue on the same terms, but always subject to the two years' notice which becomes operative after the first term. Unless the suit filed in the federal court by interests in the West End Street Railway to test the constitutionality of the merger act, which authorizes the merging of the West End Street Railway with the Boston Elevated Railway, results in a finding against the act there is nothing further to prevent the building of the tunnels and subways on the terms agreed upon.

Work Begun on Bronx Branch of Triborough Subway

Work on the Bronx branch of the triborough subway in New York was formally started on Dec. 4, 1911. Chairman Willcox, of the Public Service Commission of the First District of New York, said in a speech at a luncheon which followed the formal exercises that marked the starting of the work:

"Rapid transit has two purposes. One is to relieve congestion. The other is to find a place to which the congestion may go. If this city is to pledge its credit and advance its money for the sake of developing subways, I insist that its purpose in doing this should be to give its population homes within the city, so that the citizens may become home owners and taxpayers and not go outside the city limits and pay their taxes elsewhere. I believe in the Seventh Avenue subway project very strongly. I and my colleagues urged it on the Board of Estimate last July. We also urged the Board of Estimate to adopt the plans for Route 18, for the three-tracking of the elevated lines, and for the Steinway Tunnel. In spite of our urgings, however, these projects were not put through by the Board of Estimate.

"I think that the responsibility ought to be made clear in this matter. When our commission first came into office the city had no funds for subway building whatsoever. The commission did not have any funds till about a year and a half ago, when we had \$47,000,000. That autumn the Interborough Rapid Transit Company started negotiations with us to build the Seventh Avenue and Bronx lines. All the company's proposals, however, were based on the theory that the money was to be furnished by the companies, leaving the city free to use its money for other enterprises. The company broke off these negotiations and then, in November, 1910, reopened them. This time it offered to put in one-half the money to complete the subway 'H' and other lines and to operate them under a reduced term of lease and to divide the profits with the

city. The Public Service Commission believed and still believes that this offer was in favor of the city. It meant the three-tracking of the elevated and the opening of the Steinway tube. We recommended it to the Board of Estimate, and the committee of the board, composed of Messrs. McAneny, Cromwell and Miller, had many conferences with us which came to nothing.

"As for the Seventh Avenue line, I want it built. But I object to the argument that it ought to be built to benefit the Pennsylvania station. The Pennsylvania Railroad sold 2,000,000 tickets at its Seventh Avenue station last year. If every one of these purchasers of Pennsylvania Railroad tickets had also been a purchaser of a subway ticket, a subway station at the Pennsylvania station would be much less profitable and much less patronized than most of the subway stations in other parts of the city. At the subway station at the Grand Central last year, for example, 14,000,000 tickets were sold, or seven times as many tickets as would have been sold at a subway station at the Pennsylvania terminal, assuming that every purchaser of a ticket at the Pennsylvania station bought a subway ticket. I am merely trying to explain that the Pennsylvania Railroad is not entitled to more privileges than are the remote dwellers of this city."

Samuel Rea, vice-president of the Pennsylvania Railroad, in a letter to the Public Service Commission, has replied to the protest made by the Forty-second Street Association against the expenditure of any city money for a subway to the station of the Pennsylvania Railroad at Thirty-third Street and Seventh Avenue. A special point in that communication was made of the extra 10-cent fare which passengers using the Pennsylvania Railroad's new Thirty-third Street station must pay and the contention that the only effect that the business men of the district about the station had noticed through the building of the station was an increase of their assessments. Mr. Rea points out that the new station was built primarily to meet the needs of the long-distance passengers and the patrons of the Long Island Railroad. As for the complaints of the heavy assessments, Mr. Rea suggests that they apply to the city authorities for relief, and remarks that other merchants have made their shops more attractive, when such a burden has fallen upon them, and thus benefited by the new conditions.

The Public Service Commission of the First District of New York has awarded the contract for the construction of Section 9 of Route No. 5 of the Lexington Avenue subway to Patrick McGovern, Boston, Mass., the lowest bidder, at \$1,961,997. The section for which the contract has just been awarded runs from Sixty-seventh Street under Lexington Avenue to Seventy-ninth Street, and includes two stations. The contract price is about \$300,000 less than the estimate of the cost of construction which had been made by the engineer of the commission.

The Public Service Commission of the First District has sent to the Board of Estimate its estimate of the money it will require for its expenses in 1912. The total is placed at \$1,367,000, as against the appropriation made last year of \$1,087,000.

Illinois Central Terminal Changes in Chicago

An agreement whose ultimate effect is to hasten the electrification of the Illinois Central terminal in Chicago has been reached and executed by the railroad company and the South Park commissioners of Chicago. The railroad company surrenders all its riparian rights between Twelfth Street and Fifty-first Street, that portion of its present station site north of the south line of Twelfth Street and several tracts of land which it had filled in under its riparian rights and is now using for yard purposes. In return the city will allow the railroad company to use the additional land necessary to make its right-of-way 200 ft. wide between Twelfth and Fifty-first Streets. The city has also received the right to cover the tracks of the railroad company for a width of 50 ft. adjacent to the east and west right-of-way lines and use the covering for additional park

area. This latter privilege is granted only between Monroe and Twelfth Streets. The whole of the contract is to be fulfilled within five years.

This agreement is of general interest not only because it contemplates an extensive park improvement which will reach from Grant Park on the north to Jackson Park on the south, but because it indicates that the Illinois Central Railroad ultimately intends to electrify its Chicago terminals and has agreed to abandon its present terminal building and erect a new one on the south side of Twelfth Street. The executed contract has been submitted to the city for its approval and the commissioners also ask for certain grants from the city which will allow them to carry out their part of the agreement.

Franchise Application Before Portland Council Committee

The question of granting the Portland Railway, Light & Power Company, Portland, Ore., additional franchises in outlying sections of the city came before the street committee of the City Council of Portland on Dec. 5, 1911. These are the franchises which, as explained in the *ELECTRIC RAILWAY JOURNAL* of Nov. 4, 1911, page 1007, City Attorney Grant is seeking to load with onerous conditions, among them the right to fix fares and a common-user clause. B. S. Josselyn, president of the company, again explained that the application of the company for additional trackage is solely to improve the service and was made at the urgent request of the citizens of the various districts involved. Mr. Josselyn said at the meeting of the committee:

"We want to extend these lines because it is a duty we owe the public. The public is demanding the extensions. But to give the public the benefit of our service we do not intend to surrender any of our rights. We are willing to accept these franchises under the conditions imposed under the old grants, but we will not accept any franchise under the terms as recommended by Attorney Grant. If it was not for the public wanting these lines we would withdraw our application for all the new franchises. The construction of the proposed lines means the expenditure of \$1,000,000 by us and we are not anxious to spend this amount under present conditions."

After trying to segregate the franchises by streets the committee resolved to take up separately the objections of the company to the franchises as drafted by Mr. Grant. Of the many objections all were adjusted except those referring to fares and private rights-of-way. These were to be considered at an adjourned meeting of the committee on Dec. 13, 1911.

Crosstown Railway Ordinance in Louisville

The ordinance which provided for the construction of a crosstown railway in Louisville, Ky., is before the General Council of Louisville for passage. It provides for the sale of a twenty-year franchise for a street railway through the southern residential section of the city, the work of construction to be begun within six months after the franchise goes into effect and to be completed within two years after work is commenced. The upset price of the franchise is placed at \$15,000, and it is presumed that the Louisville Railway will purchase the grant. The ordinance contains several unusual features. A clause which provides for the regulation of service stipulates that the company must operate cars at intervals of not more than ten minutes between 5:30 a. m. and 11:30 p. m. Owl service is to be optional.

The fare is fixed at not more than 5 cents, power being reserved to the General Council to reduce the fare at a future date. Interurban railways which enter Louisville are to have the privilege of using the crosstown tracks upon the payment of a reasonable sum to the purchaser of the franchise, this sum to be fixed by an arbitration committee of traffic experts if the company applying for operating rights and the company which holds the franchise cannot come to terms.

The purchaser of the franchise is to pave between the tracks and 2 ft. on either side of the outside rail. Cars are to be operated from the termini of the line, at Greenwood Avenue and Twenty-eighth Street and in Cherokee

Park, at intervals of not more than thirty minutes. The length of the line for which the franchise is to be offered is 6 miles.

Controversy Between Stockholders in Columbus Companies Averted

After conferences on Dec. 8 and 9 at Columbus, Ohio, between the special committee of stockholders of the Columbus Railway which consists of D. Meade Massie and John A. Poland, Chillicothe; C. L. Poston, Athens, and Prof. Edward Orton and Angus Dun, Columbus, and a special committee of stockholders of the Columbus Railway & Light Company, composed of E. A. Cole, Paul A. DeLong, Carl J. Hoster, J. B. Hanna, C. E. Wilcox, and C. M. Clarke, second vice-president of the Columbus Railway & Light Company, representing the management of that corporation an agreement is said to have been reached by which all controversy at the annual and adjourned special meetings of the stockholders of the Columbus Railway, Jan. 11, 1912, will be averted.

A call will be issued from the office of the Columbus Railway asking for proxies for the meetings in the names of a new proxy committee and these will be voted as a unit for the members of a new board of nine directors, as agreed upon at the final conference on Dec. 9. The board will be increased from five members to nine members and will include Judge William Worthington, Edward Johnson, W. K. Lanman, Charles D. Hinman, A. D. Heffner, F. R. Huntington, D. Meade Massie, and L. P. Matthews. The present board, which will retire at the annual meeting, consists of Butler Sheldon, president; Frank T. Stewart, first vice-president and treasurer; George Hardy, second vice-president; H. M. Burington, secretary, and W. K. Lanman.

The recommendations presented at the special meeting of the Columbus Railway held on Nov. 11, 1911, as noted in the *ELECTRIC RAILWAY JOURNAL* of Nov. 18, 1911, page 1077, provided for a board of nine members, but at that time action on this was deferred until the annual meeting in January, 1912.

Galveston-Houston Electric Railway Opened.—The Galveston-Houston Electric Railway was placed in operation on Dec. 5, 1911, between Galveston and Houston.

Prof. Droppers Again Nominated to Massachusetts Commission.—Governor Foss of Massachusetts has again nominated Prof. Garrett Droppers as a member of the Massachusetts Railroad Commission, vice Clinton White, the present incumbent. Professor Droppers' name was recently rejected by the Executive Council for membership on the board.

Tentative Employers' Liability Law Completed.—The Federal Employers' Liability and Workman's Compensation Commission, of which Senator Sutherland of Utah is chairman, completed on Dec. 8, 1911, a tentative bill which it will recommend to Congress. The measure in effect abolishes the present common law and statutory liability for personal injury and death of employees in the service of interstate railroads and railroads in the District of Columbia and substitutes definite compensation in all such cases irrespective of negligence.

Authority of Chicago Subway Commission Extended.—Mayor Harrison of Chicago, Ill., has announced that he will name the members of his subway commission, City Engineer Ericson, J. J. Reynolds and E. C. Shankland, as the board of subway and harbor engineers created by the City Council recently. As stated in the *ELECTRIC RAILWAY JOURNAL* of Nov. 18, 1911, page 1074, the Mayor urged the City Council to authorize the present subway commission to draw plans for the proposed harbor improvements at Chicago instead of creating a separate commission for this work.

Line Between Vienna and Budapest Promoted by Americans.—An electric railway to extend from Vienna to Budapest, about 150 miles, is being promoted in the United States. Alonzo M. Snyder, of Ford, Snyder & Tilden, Williamson Building, Cleveland, Ohio, is the attorney representing the capital behind the project. Mr. Snyder says: "The project was first broached more than two years ago. At that time I obtained the right to build part of the dis-

tance. Later the Hungarian officials were asked for permission to build in Hungary, and that application is pending. The transaction is not closed and there is nothing more that can be said in regard to it at this time."

Crosstown Railway Franchises in Los Angeles.—The Council of Los Angeles, Cal., has unanimously resolved to grant the franchises for 8 miles of double-track crosstown railway lines in that city and has directed that bids for the lines shall be advertised without delay. The bids will be received not later than Dec. 19, 1911, and the Council on that date will pass the necessary ordinance. The Mayor has promised to sign the ordinance at once. The ordinance will provide that one-third of the 8 miles of track shall be completed within six months after construction work has been commenced. It is expected that the construction of these lines will assist in relieving traffic congestion by affording additional outlets for traffic.

Decision in Suit Over Signals in Indiana.—In an action by the Indiana Railroad Commission to recover \$18,000 in penalties from the Grand Trunk Western Railway for failure to install an "approved" block signal system within the time set by the commission, Judge Reiter, of the Lake Circuit Court, has decided that it is impossible to determine what is an "approved" block signal system under the law under which the action was brought. The law was amended by the last Legislature so as to define more clearly the kind of signal that must be installed. The law also applies to the interurban electric railways. The subject of signals for electric railways is now being considered by a committee representing the interurban electric railways and the members of the commission.

Chicago Elevated Railway Valuation Committee Chosen.—The appointments have all been made to the committee of five which is to decide upon a basis for fixing the value of the elevated railways in Chicago in connection with the tentative proposal made to the city to merge the elevated railways and the surface railways. Charles V. Weston, formerly president of the South Side Elevated Railroad, and Prof. George F. Swain, of Harvard University and consulting engineer of the Massachusetts Railroad Commission, have been chosen to represent the companies, and City Engineer Ericson, J. J. Reynolds and E. C. Shankland, constituting the city's present subway commission, have been appointed to represent the city. The committee will confer with the railroad and financial interests represented by Samuel Insull, Henry A. Blair and Ira M. Cobe.

Proposed Public Service Commission for Washington, D. C.—There is a division of opinion in regard to the question of the provisions which should be included in the bill to provide a commission to supervise the affairs of the public service companies which operate in Washington, D. C. Senator Gallinger, of New Hampshire, favors the appointment of the members of the District Commission to the public utility commission. Senator La Follette, of Wisconsin, is said to favor a commission independent of the District Commissioners. Senator Pomerene, of Ohio, who is a member of the Senate committee on District matters, has expressed the opinion that the questions which will come before the commission will require expert consideration and that even if the members of the District Commission were qualified technically to pass upon these questions, their present duties require their undivided attention.

Underground Railway Inquiry in Montreal.—At a recent meeting of the Board of Control of Montreal, Que., F. L. Wanklyn, comptroller of the city, announced that the law department was conducting an inquiry into the right of the city to build an underground railway and lease the property for private operation. As a result of this investigation and on the recommendation of Mr. Wanklyn the Board of Control of Montreal has adopted a resolution authorizing the city attorney to draft an amendment to the city charter authorizing the city to construct underground railways. Mr. Wanklyn has also recommended that the city should secure power from the Legislature to build a double-track street railway along the aqueduct embankment from Montreal to Lachine, a distance of about 7 miles. The Board of Control also adopted a similar resolution in regard to applying to the Legislature for the necessary power to construct this line.

Statement of Policy by Connecticut Commission.—The Public Utility Commission of Connecticut has issued the following statement in regard to its policy with respect to records, transcripts of evidence, etc.: "Only the records or finding made by the commission of its examination into the cause of and circumstances connected with any accident is a public record and subject to public inspection, and not the detailed statements upon which such record or finding is predicated. Any notes, transcripts of evidence, statements, exhibits, photographs and other matters obtained by the commission in connection with any such examination shall be carefully preserved and kept on file, the same to be available at any and all times when necessarily connected with any matter pertaining to the enforcement of any orders issued by the commissioners in which the State or the commission is directly interested. Examination of witnesses may be made privately and separately if, in the opinion of the commission, such course is desirable."

Receiver Asked for Kansas City Viaduct & Terminal Company.—Application has been made for a receiver for the Kansas City Viaduct & Terminal Company. This company was incorporated in Missouri in 1905 and operates an elevated viaduct from Bluff and Sixth Streets, Kansas City, Mo., to Minnesota Avenue and Fourth Street, Kansas City, Kan., with a roadway from 30 ft. to 38 ft. wide equipped with tracks over which the Metropolitan Street Railway operated cars prior to Aug. 1, 1911, paying the Viaduct company 1 cent for each passenger carried. The application for a receiver was filed by Asa W. Farney, a stockholder, before Judge Pavell in the Circuit Court at Independence. Mr. Farney alleges that the control of the company has passed to interests outside of the state, contrary to the franchise; that the company has neglected to perform the obligation due to Kansas City, Mo., and Kansas City, Kan., and that by canceling the contract with the Metropolitan Street Railway the company has forfeited an income of \$50,000 a year.

Opposition to Proposed Subway in Toronto.—On Jan. 1, 1912, the taxpayers of Toronto, Ont., will vote on by-laws to authorize an issue of \$10,000,000 of bonds for civic improvements, including a short subway as part of a system to be completed by 1921 at a total cost of \$23,000,000, as referred to in the *ELECTRIC RAILWAY JOURNAL* of Dec. 9, 1911, page 1215. Considerable opposition has developed to the subway proposal. The *Monetary Times*, Toronto, said recently in an article opposing the plan to appropriate funds for a subway: "It is an extravagant imagination which would allow tube railways to enter the transportation situation of a city of less than 400,000 population. It is well to note that the suggested expenditure of \$5,000,000 on the 3 miles of subway is only the thin edge of the wedge and the beginning of a scheme for a system estimated to cost \$23,000,000, and to be completed in 1921. The proposed tube system is an extravagant and unwise attempt to solve a complex transportation problem. The taxpayer who does not allow his civic pride to carry him beyond his business sense will vote against the tube scheme."

Utility Bill Introduced in California.—The public utility bill drawn by John M. Eshelman, of the California Railroad Commission, and Max Thelen, attorney for the Railroad Commission, has been introduced at the special session of the Legislature of California. The measure would create a new commission of five members to succeed the present Railroad Commission of three members, and is designed to include within its jurisdiction railroads, street railways, electric light and power companies, gas companies, water companies, etc. The new measure, if passed, would give the commission power to fix rates for service and to authorize issues of bonds by public service corporations. Any review of a decision by the commission before the courts would have to be asked for within thirty days by the special procedure provided by the bill, and would then have to be taken direct to the Supreme Court for a final decision. No grounds for a review would be permitted to exist except such as were named in the application to the commission for a rehearing. Under the clause of "public convenience and necessity," no utility except a railroad would be permitted to establish itself in any community without the consent of the commission.

Financial and Corporate

New York Stock and Money Markets

Dec. 13, 1911.

Substantial improvement has been made in prices on the New York Exchange, although trading has been irregular. Metropolitan trust receipts for the 5 per cent bonds reached 97 to-day, a record for the year. Interborough-Metropolitan common and preferred made slight gains and Third Avenue issues were strong. Call money rates have eased off from the 6 per cent level of the past few weeks and quotations to-day were 3¼@4 per cent; ninety days, 4 per cent.

Other Markets

Prices have been well sustained in the Chicago market since the early part of the week, and the volume of trading has been rather generally distributed throughout the list of securities.

Philadelphia Rapid Transit and Union Traction advanced fractionally on Monday, but have not figured prominently in the trading this week.

There has been fair activity in the Boston market in the past few days with the copper shares, as usual, the leader.

Trading in Baltimore is very quiet.

Quotations of traction and manufacturing securities as compared with last week follow:

| | Dec. 5. | Dec. 12. |
|---|---------|----------|
| American Brake Shoe & Foundry (common)..... | a90 | a90 |
| American Brake Shoe & Foundry (preferred)..... | a131½ | a131½ |
| American Cities Company (common)..... | a27 | a27 |
| American Cities Company (preferred)..... | a83 | a83 |
| American Light & Traction Company (common)..... | a295 | a295 |
| American Light & Traction Company (preferred)..... | a107 | a107 |
| American Railways Company..... | a46 | a45½ |
| Aurora, Elgin & Chicago Railroad (common)..... | 36 | a39½ |
| Aurora, Elgin & Chicago Railroad (preferred)..... | a84 | a84 |
| Boston Elevated Railway..... | a130 | a130½ |
| Boston Suburban Electric Companies (common)..... | a15 | a15 |
| Boston Suburban Electric Companies (preferred)..... | a74 | a75 |
| Boston & Worcester Electric Companies (common)..... | *12 | *12 |
| Boston & Worcester Electric Companies (preferred)..... | a55 | a56 |
| Brooklyn Rapid Transit Company..... | 77 | a76¾ |
| Capital Traction Company, Washington..... | a127½ | a127½ |
| Chicago City Railway..... | 180 | a180 |
| Chicago Elevated Railways (common)..... | a30¾ | a30½ |
| Chicago Elevated Railways (preferred)..... | a93 | a93½ |
| Chicago Railways, pteptg., cft. 1..... | a97 | a96½ |
| Chicago Railways, pteptg., cft. 2..... | a35 | a34¾ |
| Chicago Railways, pteptg., cft. 3..... | a11½ | a11½ |
| Chicago Railways, pteptg., cft. 4..... | a7 | a6¾ |
| Cincinnati Street Railway..... | a130½ | 130½ |
| Cleveland Railway..... | a104½ | a106 |
| Cleveland, Southwestern & Columbus Ry. (common)..... | *47½ | *47½ |
| Cleveland, Southwestern & Columbus Ry. (preferred)..... | *33¾ | *33¾ |
| Columbus Railway & Light Company..... | a37½ | a37½ |
| Columbus Railway (common)..... | a83 | *83 |
| Columbus Railway (preferred)..... | a90 | *90 |
| Dayton Street Railway (common)..... | a25 | a25 |
| Dayton Street Railway (preferred)..... | a101 | a101 |
| Denver & Northwestern Railway..... | *145 | *145 |
| Detroit United Railway..... | a85 | 85 |
| General Electric Company..... | 152¾ | 154¾ |
| Georgia Railway & Electric Company (common)..... | a158½ | a159 |
| Georgia Railway & Electric Company (preferred)..... | a92 | a91½ |
| Interborough Metropolitan Company (common)..... | 15 | 15¾ |
| Interborough Metropolitan Company (preferred)..... | 45½ | 48 |
| International Traction Company, 4% notes, rcts..... | *70 | 69 |
| Indiana Union Traction Company..... | 11 | 12 |
| Kansas City Railway & Light Company (common)..... | a20½ | a20½ |
| Kansas City Railway & Light Company (preferred)..... | 52 | 52 |
| Lake Shore Electric Railway (common)..... | *7 | *7 |
| Lake Shore Electric Railway (1st preferred)..... | *81½ | *83 |
| Lake Shore Electric Railway (2d preferred)..... | *25 | *25 |
| Manhattan Railway..... | a137 | 136 |
| Massachusetts Electric Companies (common)..... | a21¾ | a21¾ |
| Massachusetts Electric Companies (preferred)..... | a93¾ | a94 |
| Metropolitan Street Railway, New York..... | *8 | *8 |
| Milwaukee Electric Railway & Light (preferred)..... | *105 | *105 |
| Norfolk Railway & Light Company..... | 26 | 26 |
| North American Company..... | a73½ | a73½ |
| Northern Ohio Light & Traction Company (common)..... | a58½ | a57½ |
| Northern Ohio Light & Traction Company (preferred)..... | a105 | 105 |
| Philadelphia Company, Pittsburgh (common)..... | 53 | 52½ |
| Philadelphia Company, Pittsburgh (preferred)..... | a43¾ | a43¾ |
| Philadelphia Rapid Transit Company..... | 23¼ | a23 |
| Portland Railway, Light & Power Company..... | *99½ | *99½ |
| Public Service Corporation..... | a110 | a110 |
| Seattle Electric Company (common)..... | a107 | a106½ |
| Seattle Electric Company (preferred)..... | a101¾ | a101 |
| Third Avenue Railroad, New York..... | 5 | 7 |
| Toledo Railway & Light Company..... | 4½ | 5½ |
| Twin City Rapid Transit, Minneapolis (common)..... | a105¾ | a104 |
| United Ry. & Electric Company (Baltimore)..... | 18½ | 18½ |
| United Rys. Inv. Co. (common)..... | 32 | 32 |
| United Rys. Inv. Co. (preferred)..... | 59 | 60 |
| Virginia Railway & Power Company (common)..... | a41¾ | a44 |
| Virginia Railway & Power Company (preferred)..... | 81 | a82 |
| Washington Ry. & Electric Company (common)..... | a47 | a46¾ |
| Washington Ry. & Electric Company (preferred)..... | a88 | a88 |
| West End Street Railway, Boston (common)..... | a87½ | a88 |
| West End Street Railway, Boston (preferred)..... | a103½ | a103½ |
| Westinghouse Elec. & Mfg. Co..... | a65¾ | a66 |
| Westinghouse Elec. & Mfg. Co. (1st pref.)..... | a118 | a118 |

a Asked. *Last sale.

ANNUAL REPORTS

Aurora, Elgin & Chicago Railroad

The report of the Aurora, Elgin & Chicago Railroad for the year ended June 30, 1911, shows the following results:

| | | |
|---|-------------|-------------|
| Gross earnings and other income: | | |
| Railroad department: | | |
| Revenue from transportation..... | \$1,514,052 | |
| Revenue from operations other than transportation | 158,226 | \$1,672,278 |
| Light and power department: | | |
| Gross earnings from operation..... | 102,714 | |
| Interest | 1,944 | |
| Income from sinking fund investment..... | 11,751 | |
| Profit on work done for outside companies..... | 1,796 | |
| Total gross earnings and other income..... | | \$1,790,483 |
| Operating expenses: | | |
| Railroad department: | | |
| Ways and structures..... | \$92,946 | |
| Equipment | 118,097 | |
| Traffic | 9,145 | |
| Conducting transportation..... | 550,718 | |
| General and miscellaneous..... | 244,908 | |
| Total | \$1,015,814 | |
| Less undistributed operating credits..... | 13,125 | |
| Remainder—total railroad department..... | | \$1,002,689 |
| Light and power department: | | |
| Cost of current—operating..... | \$21,320 | |
| Cost of current—maintenance..... | 576 | |
| Cost of distribution—operating..... | 10,909 | |
| Cost of distribution—maintenance..... | 6,107 | |
| General expenses..... | 11,746 | |
| Total light department..... | | 50,658 |
| Total operating expenses..... | | \$1,053,347 |
| Gross income..... | | \$737,136 |
| Deductions from income..... | | 423,373 |
| Net income..... | | \$313,763 |
| Profit and loss surplus at beginning of year..... | | 316,671 |
| Other profit and loss credits..... | | 45,909 |
| Profit and loss—gross surplus..... | | \$676,343 |
| Profit and loss charges: | | |
| Dividends | \$279,000 | |
| Other | 42,619 | |
| | | 321,619 |
| Profit and loss surplus at end of year..... | | \$354,724 |
| Percentage of operating expenses to gross earnings | 59.35 | |

A note below the table says: "While it is the company's policy to charge against its operations the amounts expended in the current maintenance of its way and structures and equipment, no provision, other than such renewals as are included therein, is made in its operating accounts for depreciation. However, at June 30, 1911, a reserve for replacements and renewals of \$24,063 was created by a charge to profit and loss."

L. J. Wolf, the president, says in part:

"Two industrial sidings for freight traffic have been added.

"A gasoline weed burner has been purchased and used with success in clearing our tracks of weeds.

"An autographic bond-testing apparatus has been purchased, which gives a complete record of the condition of our rail bonds. This has been of great service in testing bonds and showing where rebonding should be done. The welded type of bond has been applied, by means of the bonding car purchased last year, upon all of the Aurora city lines and the interurban line from Elgin to Aurora.

"An additional block of alternating-current signals is now being installed on the Elgin branch between Wheaton and Geneva Junction. Another block of these signals has been ordered for installation between Maywood and Bellwood. Several blocks of the United States type of signals have been installed on the Fox River division and a number of crossing alarm bells have been added.

"During the past year two 500-hp Edge Moor boilers with Green stokers and coal bunkers have been placed in the Batavia power house, making a total boiler equipment of 7300 hp. The installation of the new stack and the low-pressure turbine, mentioned in last year's report, was completed last winter and has brought about improved conditions and greater economy. All steam valves installed in connection with the turbine are remote-controlled, motor-driven valves to facilitate operation, and non-return stop valves have been placed on all boilers to give added safety. A 3000-hp open-type feed-water heater has been installed to utilize the waste heat from the steam-driven auxiliaries,

A turbine-driven centrifugal boiler-feed pump was installed with sufficient capacity to feed all the boilers.

"Four of the old stokers were replaced during the year with large modern Green stokers, which will result in increased capacity from the boilers and a lower cost of stoker maintenance. The coal bunkers over four boilers, capacity 10 tons each, were replaced with bunkers having a capacity of 50 tons each.

"The 1000-kw rotary installation at Lombard and the moving of the 500-kw rotary from Lombard to Ingaltion substation, mentioned in last year's report, have been completed with great benefit to the Chicago division.

"To keep the machinery cool a supply of water has been piped to the Aurora and Clintonville substations and ventilators have been placed in the roofs of the Lombard and Maywood substations.

"The Aurora shop has been rearranged and several of the pits have been extended, thereby allowing the work to be handled to better advantage.

"A number of new tools and machines have been added to facilitate work at both the Aurora and Wheaton shops.

"All the steps on the Fox River interurban cars have been changed from a two-riser to a three-riser step, thus making the entrance to and exit from the cars much easier and safer.

"All Fox River interurban and many of the city cars have been re-wired and the wiring has been placed in iron conduits.

"During the year through service was inaugurated on the Chicago, Wheaton & Western Railway to St. Charles.

"Our express business has shown good growth over all divisions.

"We continued to feel the effect of the coal miners' strike of 1910, during the first part of the past fiscal year, and were obliged to purchase inferior coal at very high prices. The first coal from Illinois mines was received in the latter part of September, 1910, and then in quantities not sufficient for our needs."

Kansas City Railway & Light Company

Gross earnings of the Kansas City Railway & Light Company for the year ended May 31, 1911, were \$7,727,680, an increase of \$566,638 as compared with the preceding year. A comparative statement follows:

| Year ended— | May 31, 1910. | May 31, 1911. |
|--|--------------------|--------------------|
| Gross earnings..... | \$7,161,041 | \$7,727,680 |
| Operating and maintenance expenses..... | 4,153,249 | 4,450,534 |
| Net earnings from operations..... | \$3,007,792 | \$3,277,146 |
| Other income (net)..... | 17,399 | 45,491 |
| Total net earnings..... | \$3,025,191 | \$3,322,637 |
| Deductions—Fixed and other charges: | | |
| Taxes | 477,109 | 585,865 |
| Interest on bonded debt..... | 1,356,588 | 1,475,435 |
| Bond discount and commission (proportion written off)..... | 170,734 | 236,391 |
| Interest on floating debt (net)..... | 77,230 | 15,760 |
| Reserve for doubtful accounts receivable.... | 20,693 | 30,423 |
| Miscellaneous charges..... | 608 | 15 |
| Bond sinking fund provision (Corrigan issue) | 55,000 | 55,000 |
| | \$2,157,962 | \$2,398,889 |
| Net income..... | \$867,229 | \$923,748 |

The net income for the year, added to the balance of \$463,726 existing as of June 1, 1910, made a total of \$1,387,474. From this there were paid three quarterly dividends of 1¼ per cent each on the preferred stock, or a total of \$352,781, leaving a surplus as of May 31, 1911, of \$1,034,693.

The balance sheet shows a depreciation and renewal reserve, less abandoned property and other expenditures written off, \$1,239,65.

The certificate of Price, Warehouse & Company, charted accountants, is as follows:

"We have audited the books and accounts of the Kansas City Railway & Light Company and its subsidiary companies for the year ended May 31, 1911, and, subject to the adequacy of the provision made toward accruing renewals and depreciation of the properties and equipment, we certify that, in our opinion, the annexed balance sheet is properly drawn up so as to show the true financial position of the company and its subsidiary companies on May 31, 1911, and that the relative income account is a correct statement

of the results of the operations for the year ending on that date."

Traffic and operating statistics for the last three years compare as follows:

| | 1909. | 1910. | 1911. |
|---|-------------|-------------|-------------|
| Gross earnings..... | \$6,629,195 | \$7,178,440 | \$7,773,171 |
| Per cent of increase..... | 7.34 | 8.29 | 8.28 |
| Net earnings, all sources..... | \$2,862,407 | \$3,025,191 | \$3,322,637 |
| Per cent of increase..... | *2.09 | 5.69 | 9.83 |
| Operating and maintenance expense—per cent of gross earnings..... | 56.82 | 57.86 | 57.25 |
| Street railway department: | | | |
| Passengers carried for revenue..... | 104,950,526 | 111,171,548 | 117,364,925 |
| Passengers carried on transfers.... | 45,356,172 | 47,280,535 | 48,806,427 |
| Gross earnings per car mile—cents..... | 22.18 | 24.20 | 25.73 |
| Operating and maintenance expenses per car mile—cents..... | 12.75 | 14.38 | 15.17 |
| Net earnings per car mile—cents.... | 9.43 | 9.82 | 10.56 |
| Gross earnings per car hour..... | \$2.036 | \$2.208 | \$2.322 |
| Operating and maintenance expenses per car hour..... | \$1.171 | \$1.312 | \$1.369 |
| Net earnings per car hour..... | \$.865 | \$.896 | \$.953 |
| Track mileage, between termini, all roads..... | 129.832 | 130.432 | 136.133 |
| Track mileage, single track, all roads | 249.709 | 249.709 | 260.631 |
| Electric light department: | | | |
| Connected load in 16-cp equipments | 706,884 | 854,296 | 1,092,312 |
| Increase over previous year..... | 123,613 | 147,412 | 238,016 |

*Decrease.
NOTE.—The above statistics for the street railway department, except as to track mileage, do not include the Kansas City & Westport Belt Railway.

New England Security & Investment Company Seeks to Dispose of Its Holdings

The trustees of the New England Investment & Security Company, Springfield, Mass., have decided to petition the Legislature of Massachusetts, which will convene early in 1912, for authority to sell to the New York, New Haven & Hartford Railroad all of its street railway investments instead of only the part of them represented by the Springfield Street Railway. The New England Investment & Security Company took over the street railway property in Massachusetts of which the New York, New Haven & Hartford Railroad had to divest itself a few years ago in consequence of the decision of the Supreme Court of Massachusetts. J. T. Harmer, president of the New England Investment & Security Company, has issued the following statement in this connection:

"While recognizing clearly the desirability of consolidating the Springfield Street Railway and the Berkshire Street Railway as a necessary preliminary to the construction of the extensions in the territory west of the Connecticut River, some of which are more properly extensions of the Springfield Street Railway than of the Berkshire Street Railway, the trustees of this association are convinced by their study of the situation that in a short time the same embarrassment would inevitably arise respecting the territory between Springfield and Worcester. The simplest solution seemed to the trustees, therefore, to lie in the direction of a petition for authority to sell to the New York, New Haven & Hartford Railroad the whole of its street railway investments instead of the important and valuable part of them represented in the Springfield Street Railway. If, however, the Legislature deems the formation of a Massachusetts corporation to take over the assets of the New England Investment & Security Company preferable to a direct sale of those assets to the New York, New Haven & Hartford Railroad, the petition is broad enough to permit legislation authorizing the formation of such a corporation."

T. E. Byrnes, vice-president of the New York, New Haven & Hartford Railroad, has issued a statement in part as follows:

"The trustees of the New England Investment & Security Company have intimated to the New York, New Haven & Hartford Railroad that they prefer to sell their entire street railway interests rather than to break up what they regard as a single and harmonious system by a sale of all that part of it now represented in the Springfield Street Railway. They have announced their intention, therefore, of asking for legislative authority to permit such a sale. Under these circumstances the New York, New Haven & Hartford Railroad has been asked for a statement of its position. The company has seen no reason to change the opinion formed several years ago that a development

of the territory in central and western Massachusetts served by the Berkshire Street Railway, the Springfield Street Railway and the Worcester Consolidated Street Railway is possible, and that such a development would add greatly to the prosperity of the farming and manufacturing communities in the territory, and would materially increase the importance of Springfield and Worcester as commercial and trading centers.

"The company has, however, seen no evidence of a likelihood that the necessary extensions will be built by newly organized companies, nor does it believe that the existing companies, under their present or any probable future independent ownership, will be disposed to risk additional capital in the construction of extensions which for some years at least are likely to be less remunerative than their existing lines, which are already paying a satisfactory return. The position of this company toward such a development is, however, quite different. It already has many railroad lines in the territory under consideration. Any increased prosperity in that territory, therefore, would at once benefit its railroad lines. Consequently, if legislation should be enacted authorizing the New York, New Haven & Hartford Railroad to purchase the interest of the New England Investment & Security Company in Massachusetts street railways, the New York, New Haven & Hartford Railroad would be glad to make such purchase, and to undertake to demonstrate the soundness of its belief that central and western Massachusetts are capable of a much greater development, of supporting a more numerous population and enjoying greater prosperity than at any time in the past."

Buffalo, Batavia & Rochester Railway

The Public Service Commission of the Second District of New York has received a petition for a proposed new electric railway to operate between Buffalo and Rochester. The plan involves the consolidation of the Buffalo & Williams-ville Electric Railway, the Buffalo & Depew Railway and the Buffalo, Genesee & Rochester Railway as the Buffalo, Batavia & Rochester Railway.

The Buffalo & Depew Railway now runs from Buffalo to Depew. The Buffalo & Williams-ville Railway extends from Buffalo to Williams-ville. The Buffalo, Batavia & Rochester Electric Railway and the Buffalo, Genesee & Rochester Railway hold certificates of public convenience and necessity for roads between Buffalo and Rochester. The Buffalo, Batavia & Rochester Electric Railway also owns franchises from all the towns and villages through which the proposed railway will pass with the exception of Pembroke and Churchville, in which franchises have expired.

The proposed route of the Buffalo, Batavia & Rochester Electric Railway will form an extension of the Buffalo & Williams-ville Railway and the proposed route of the Buffalo, Genesee & Rochester Railway will form a continuation of the Buffalo & Depew Railway. These proposed routes join near Batavia, and will form one continuous connected line of railway.

The commission is asked to allow the issue of first mortgage bonds to the amount of \$3,000,000, preferred stock to the amount of \$1,000,000 and common stock to the amount of \$2,500,000. It is proposed to convert the stock of the present railway corporations into the stock of the present consolidated corporation upon the basis of one share of stock at the par value of \$100 in exchange for each \$100 of outstanding stock.

The petitioners have arranged with the Batavia & Genesee Construction Company to enter into a contract to build and equip the railway from Buffalo to Rochester, furnish the right-of-way, pay interest on the bonds for a period of two years and market the bonds abroad upon the basis of cost plus 10 per cent profit, and to receive in payment therefor \$3,000,000 of bonds at \$5 and \$1,000,000 of preferred stock at par, the balance to be paid in cash or in the common stock of the railroad company at par. The proposed railroad will connect with the Rochester Railway in Rochester.

Augusta-Aiken Railway & Electric Corporation, Augusta, Ga.—The interests which control the Augusta-Aiken Railway & Electric Corporation have acquired the property and rights of the Georgia-Carolina Power Company and have

announced that they will complete the proposed power development work of that company, which contemplates the construction of a water-power plant on the Savannah River at the mouth of Stevens Creek, a few miles above Augusta.

Boise & Interurban Railway, Boise, Idaho.—J. S. & W. S. Kuhn, Inc., Pittsburgh and New York, confirm the report of the sale by them of their interest in the Boise & Interurban Railway and the Swan Falls power development to a syndicate of Eastern capitalists.

Calumet & South Chicago Railway, Chicago, Ill.—The Calumet & South Chicago Railway, which is operated by the Chicago City Railway, has sold an additional \$500,000 of 5 per cent bonds, making the total outstanding \$4,000,000.

Cheyenne (Wyo.) Electric Railway.—The sale of the property of the Cheyenne Electric Railway is reported. The purchasers are said to be an Eastern syndicate headed by W. J. Barker, second vice-president of the Denver Gas & Electric Light Company and president of the Northern Colorado Power Company, which furnishes power in Cheyenne. Confirmation of the purchase could not be obtained at the office of Henry L. Doherty & Company in New York.

Chicago & Oak Park Elevated Railway, Chicago, Ill.—A judgment for \$1,035,377 has been obtained in the Supreme Court against the Chicago & Oak Park Elevated Railway in favor of George H. Church on two notes made by the company on Sept. 5, 1911, to the order of Henry A. Blair, Samuel McRoberts and Frank A. Vanderlip, as trustee under a certain agreement dated June 30, 1911, establishing the Chicago Elevated Railways collateral trust. Both notes were indorsed by the trustee to the order of the plaintiff.

City Island Railroad, New York, N. Y.—Bion L. Burrows has been appointed receiver of the City Island Railroad as the result of a suit to foreclose a mortgage for \$27,872, executed on Jan. 22, 1888, to the Pelham Park Railroad, and assigned to the Interborough Rapid Transit Company.

Columbus, Delaware & Marion Railway, Columbus, Ohio.—On the application of the holders of the preferred stock of the Columbus, Delaware & Marion Railway, Judge Daniel Babst has appointed George Whysall, the receiver of the company, special master in chancery and has directed him to advertise and sell the property.

Columbia Power, Light & Railways Company, Bloomsburg, Pa.—M. Milleisen and B. F. Meyers have been elected additional members of the board of directors of the Columbia Power, Light & Railways Company.

Columbus, Urbana & Western Electric Railway, Columbus, Ohio.—The Columbus, Urbana & Western Electric Railway has applied to the Public Utility Commission of Ohio for permission to issue \$50,000 of additional capital stock and \$5,500,000 of 6 per cent twenty-five-year bonds to provide funds for extensions and improvements.

Connecticut Company, New Haven, Conn.—The New York, New Haven & Hartford Railroad, acting with the Connecticut Company and the Housatonic Power Company, has in the form of a sub-lease practically divested itself of the large electric and gas companies acquired some years ago when the property of the Connecticut Railway & Lighting Company was leased. The new lease is made to the United Electric Light & Water Company, a corporation chartered by the Connecticut Legislature and understood to represent the United Gas Improvement Company, Philadelphia, and almost the same group of financiers who promoted the Connecticut Railway & Lighting Company. This sub-lease covers all properties except those used for railway purposes in Waterbury, Naugatuck, Watertown and Cheshire, not including power stations or substations used wholly or in part for railway purposes, also the same class of properties in Norwalk, Wilton, New Canaan and Greenwich. The sub-lease also covers the gas system in Norwalk and Naugatuck, and an uncompleted gas plant in Greenwich. The lease made to the United Electric Light & Water Company calls for the payment by the lessee of \$365,000 a year in monthly pro rata amounts.

Denver (Col.) City Tramway.—The Denver Realty Company, a subsidiary of the Denver City Tramway, has sold \$750,000 of two-year notes in order to reimburse the Denver City Tramway for advances. The International Trust Company, Denver, Col., is trustee of the issue of notes.

Du Bois Electric & Traction Company, Du Bois, Pa.—Wilson Weellper, of George B. Atlee & Company, Philadelphia, Pa., has been elected a director of the Du Bois Electric & Traction Company.

Georgia Railway & Electric Company, Atlanta, Ga.—The Georgia Railway & Electric Company has called for payment on Jan. 2, 1912, at 105 and interest twenty-five first consolidated mortgage 5 per cent bonds of the Atlanta Consolidated Street Railway dated Jan. 2, 1899. The bonds will be paid at the office of the Mercantile Trust & Deposit Company, Baltimore, Md., trustee.

Hagerstown (Md.) Railway.—C. W. Lynch, president of the Hagerstown Railway, and William Jennings, treasurer of the company, have disposed of their holdings in the company. Representatives of the new interests will be elected to the company at the annual meeting in January.

Metropolitan Street Railway, New York, N. Y.—Holders of the collateral trust 5 per cent bonds of the Metropolitan Street Railway will receive an unspecified amount shortly from the trustees of the mortgage in the shape of pro rata distribution of funds accumulated from dividends on the stocks held in the collateral trust. An address has been issued to the tort creditors of the New York City Railway and the Metropolitan Street Railway by the accident creditors' protective committee of the two companies, calling attention to the now existing situation. It is pointed out by the committee that legal proceedings in behalf of the accident creditors are now pending in the federal courts under the New York City Railway receivership and that there is a prospect that that company will pay its accident creditors in full with interest. Assignments of accident claims are required by the bondholders' committee to be made with the Windsor Trust Company, New York, N. Y., as depository on or before noon of Dec. 23, 1911.

Michigan United Railways, Jackson, Mich.—The Michigan United Railways has applied to the Michigan Railroad Commission for permission to issue \$1,237,000 of bonds to pay for work completed recently and to provide funds for the proposed line from Grand Rapids to Kalamazoo and to electrify the line to Benton Harbor. The engineer of the commission has been instructed to report on the work which the issue of securities is to cover.

New Hampshire Electric Railways, Haverhill, Mass.—Judge Edgar Aldrich of the United States Circuit Court has filed a decree ordering the sale of the property of the Portsmouth & Exeter Street Railway as a going concern or for junk. As stated in the ELECTRIC RAILWAY JOURNAL of Nov. 11, 1911, page 1042, masters appointed by the court found that the road could never be made to pay.

Ocean Shore Railroad, San Francisco, Cal.—The Ocean Shore Railroad plans to issue \$700,000 of first mortgage bonds to be taken up pro rata by the stockholders to pay a note held by the Union Trust Company, San Francisco, Cal., and to buy new equipment.

Pelham Park Railroad, New York, N. Y.—Bion L. Burrows has been appointed receiver of the Pelham Park Railroad as the result of a suit to foreclose a mortgage for \$27,500 executed by the company on Nov. 15, 1902, to Charles Stewart Davison and assigned on May 21, 1909, to the Interborough Rapid Transit Company.

Rio de Janeiro Tramway, Light & Power Company, Rio de Janeiro, Brazil.—The stockholders of the Rio de Janeiro Tramway, Light & Power Company have ratified an increase in the authorized capital of the company by \$10,000,000, of which \$5,000,000 will be offered for subscription at 105.

Tampa (Fla.) Electric Company.—The stockholders of the Tampa Electric Company will vote on Jan. 8, 1912, on the question of increasing the stock of the company from \$1,700,000 to \$1,870,000. The new stock is to be offered to stockholders at par in the proportion of one share of the new stock for each ten shares of stock now held. The proceeds of the new issue will be used to pay the floating debt and for extensions and improvements.

Third Avenue Railroad, New York, N. Y.—The Third Avenue Bridge Company, organized as a subsidiary of the Third Avenue Railroad, has applied to the Public Service

Commission of the First District of New York for permission to issue stock to the amount of \$20,000 to be used to purchase four cars which will be run over the Queensboro Bridge.

Twenty-eighth & Twenty-ninth Streets Crosstown Railroad, New York, N. Y.—The reorganization committee of the Twenty-eighth & Twenty-ninth Streets Crosstown Railroad has made public the plan of reorganization, which is substantially the same as the tentative plan filed with the Public Service Commission of the First District of New York on July 11, 1911, and noted in the ELECTRIC RAILWAY JOURNAL of July 15, 1911, page 135. The company has outstanding \$1,500,000 of bonds, at least a majority of which are to be purchased by the Third Avenue Railroad at 30, in addition to which the Third Avenue Railroad will pay the receivership expenses and other claims against the corporation. It is provided that a new company shall be formed with a capital stock of \$500,000 and \$1,000,000 bonds, such stock and approximately \$500,000 of the bonds to be exchanged for the existing bonds.

Vallejo & Northern Railway, Vallejo, Cal.—The Vallejo & Northern Railway has filed for record a certificate of increase in its bonded indebtedness from \$2,500,000 to \$10,000,000, the proceeds of the issue to be used to extend the line from Vallejo to Sacramento.

Virginia Railway & Power Company, Richmond, Va.—A sub-committee of the committee on streets of the City Council of Richmond has approved the sale of the Seven Pines line of the Virginia Railway & Power Company to the Richmond, Urbana & Peninsula Railway, which proposes to construct a railway from Richmond to Urbana. John C. Robertson, of the Richmond, Urbana & Peninsula Railway, states that contracts for the sale have been signed, subject to the approval of the Council.

Dividends Declared

- Duluth-Superior Traction Company, Duluth, Minn., quarterly, 1 per cent, preferred; quarterly, 1¼ per cent, common.
- Louisville (Ky.) Traction Company, quarterly, 1 per cent, common.
- St. Joseph Railway, Light, Heat & Power Company, St. Joseph, Mo., quarterly, 1¼ per cent, preferred.
- Tri-City Railway & Light Company, Davenport, Ia., quarterly, 1½ per cent, preferred.
- Twin City Rapid Transit Company, Minneapolis, Minn., quarterly, 1¾ per cent, preferred; quarterly, 1½ per cent, common.
- Union Traction Company, Philadelphia, Pa., 3 per cent.
- West End Street Railway, Boston, Mass., \$2, preferred.
- West India Electric Company, Ltd., Kingston, Jamaica, quarterly, 1¼ per cent.

ELECTRIC RAILWAY MONTHLY EARNINGS

| AMERICAN RAILWAYS. | | | | | | |
|--|----------------|---------------------|--------------|----------------|-------------|-------|
| Period. | Gross Revenue. | Operating Expenses. | Net Revenue. | Fixed Charges. | Net Income. | |
| 1 m., Oct., '11..... | \$397,964 | ..... | ..... | ..... | ..... | ..... |
| 1 " " '10..... | 380,345 | ..... | ..... | ..... | ..... | ..... |
| 4 " " '11..... | 1,685,683 | ..... | ..... | ..... | ..... | ..... |
| 4 " " '10..... | 1,609,109 | ..... | ..... | ..... | ..... | ..... |
| COMMONWEALTH POWER, RAILWAY & LIGHT COMPANY. | | | | | | |
| 1 m., Oct., '11..... | \$482,351 | *\$275,977 | \$206,374 | \$106,599 | \$99,775 | |
| 1 " " '10..... | 438,242 | *253,122 | 185,120 | 102,472 | 82,648 | |
| 10 " " '11..... | 4,462,809 | *2,580,360 | 1,882,449 | 1,046,245 | 836,204 | |
| 10 " " '10..... | 4,134,020 | *2,347,626 | 1,786,394 | 1,028,690 | 757,704 | |
| DETROIT UNITED RAILWAY. | | | | | | |
| 1 m., Oct., '11..... | \$897,897 | \$578,662 | \$305,581 | \$177,438 | \$141,797 | |
| 1 " " '10..... | 809,456 | 523,059 | 286,397 | 178,429 | 120,417 | |
| 10 " " '11..... | 8,656,200 | 5,465,905 | 3,045,829 | 1,766,128 | 1,424,168 | |
| 10 " " '10..... | 7,963,091 | 5,008,484 | 2,828,950 | 1,689,550 | 1,265,058 | |
| EAST ST. LOUIS & SUBURBAN COMPANY. | | | | | | |
| 1 m., Oct., '11..... | \$200,629 | *\$115,347 | \$85,282 | \$45,716 | \$39,566 | |
| 1 " " '10..... | 209,592 | *110,887 | 98,705 | 45,240 | 53,465 | |
| 10 " " '11..... | 1,878,479 | *1,074,478 | 804,001 | 455,851 | 348,150 | |
| 10 " " '10..... | 1,966,354 | *1,082,576 | 883,778 | 450,997 | 432,781 | |
| LOUISVILLE RAILWAY. | | | | | | |
| 1 m., Oct., '11..... | \$286,713 | \$154,064 | \$108,387 | \$70,250 | \$62,399 | |
| 1 " " '10..... | 280,927 | 158,131 | 105,062 | 67,667 | 55,130 | |
| 10 " " '11..... | 2,703,678 | 1,455,302 | 1,061,587 | 687,916 | 560,469 | |
| 10 " " '10..... | 2,589,970 | 1,405,001 | 1,040,720 | 648,316 | 536,653 | |
| UNION RAILWAY, GAS & ELECTRIC COMPANY. | | | | | | |
| 1 m., Oct., '11..... | \$299,154 | *\$161,022 | \$138,132 | \$63,476 | \$74,566 | |
| 1 " " '10..... | 284,293 | *148,472 | 135,821 | 58,025 | 77,796 | |
| 10 " " '11..... | 2,574,556 | *1,483,713 | 1,090,843 | 616,248 | 474,595 | |
| 10 " " '10..... | 2,421,889 | *1,415,167 | 1,006,722 | 581,955 | 424,767 | |

*Includes taxes.

Traffic and Transportation

Report on Transfer System in St. Louis

A report on the transfer system of the United Railways, St. Louis, Mo., has been made by the St. Louis Public Service Commission to the House of Delegates. The report was made by the commission in accordance with a resolution adopted by the House of Delegates stating that the company was violating a provision of an ordinance granted by a former Assembly by its refusal to issue transfers on transfers.

In order to represent existing conditions, the commission has prepared tables, diagrams and maps of the various routes. The report is based, so far as the rules of the company are concerned, upon the books of instruction furnished to conductors for their guidance in the issue of transfers. In cases where the instructions appeared vague or inconsistent, the commission had investigations and reports made by its inspectors as to actual conditions. Tables are included showing the proportion of street mileage not accessible from any part or from certain parts of originating lines for one fare. A diagram is presented to show the least number of transfers required under the present route to enable a passenger to go from an originating line to his destination line for one fare. Such an arrangement of transfers as is shown in this diagram would require a passenger to reach his destination in many instances by a circuitous route. The commission says that it is only fair to call attention to the fact that in many cases where the length of a line is not accessible for one fare there may be many points at its intersection with other lines which are accessible for one fare under the present system. The report says: "An examination of the maps will show that while from some of the lines a close access to nearly all points on the system can be obtained for one fare, from other lines it appears that large sections of territory are not accessible without the payment of more than one fare."

One map is included in the report for each of the company's routes within the city. Each map considers this line and its relation to the balance of the whole system and shows just how much of the system can or cannot be reached for one fare by a passenger paying his fare on the line which gives title to the map.

The report says that the commission has no further recommendation than that in this, as in all other cases, those receiving franchise rights from the city should be required to meet the obligations which they have assumed as the consideration, in part at least, of the franchise grant. It seems to the commission that the duty of devising the detailed scheme of transfers, under which the company shall comply with its obligations in this regard, rests solely with the company.

Owl Service in Chattanooga.—The Chattanooga Railway & Light Company, Chattanooga, Tenn., has decided to establish an owl service on its Oak Street line as an experiment.

Toledo & Chicago Interurban Railway Reduces Fare.—The Toledo & Chicago Interurban Railway, Kendallville, Ind., has reduced the fare over its lines between Kendallville and Ft. Wayne from 65 cents to 60 cents.

Owl Service on Waterloo, Cedar Falls & Northern Railway.—C. D. Cass, general manager of the Waterloo, Cedar Falls & Northern Railway, Waterloo, Ia., has announced that the company will establish an owl service on its lines in Waterloo.

Accident Reports Required in New Jersey.—The Board of Public Utility Commissioners of New Jersey has ordered all street railways which operate in New Jersey to report to the commission accidents which occur upon their properties or arise from the maintenance or operation of their properties.

Increase in Wages in Omaha and Council Bluffs.—The Omaha & Council Bluffs Street Railway, Omaha, Neb., has announced an increase in the wages of its trainmen of 1 cent an hour effective on Jan. 1, 1912. This makes the mini-

imum wage 23 cents an hour and the maximum wage 28 cents an hour.

Terminal Facilities at Coney Island.—The Public Service Commission of the First District of New York has taken up with the management of the Brooklyn Rapid Transit Company the question of rearranging its terminal facilities at Coney Island for the purpose of increasing its station accommodations before the opening of the excursion season of 1912.

An Advertisement of Acknowledgment.—The Chattanooga Railway & Light Company, Chattanooga, Tenn., which has been advertising liberally during the last year, published recently in the Chattanooga *Sunday Times* a page advertisement describing the various departments of the company, concluding with an acknowledgment of the patronage received from the public.

Freight Service in Worcester.—The Aldermen of Worcester, Mass., have granted the request of the Worcester Consolidated Street Railway for permission to carry express and freight, and the Railroad Commission has approved the petition of the company. The service will be organized under the direction of C. V. Wood, traffic manager of the lines under the control of the New England Investment & Security Company.

Warning to Automobilists.—Charles L. Henry, president and general manager of the Indianapolis & Cincinnati Traction Company, Indianapolis, Ind., is having warning signs placed at all highway crossings along the company's line and has addressed a letter to every owner of an automobile who resides in a county through which the company operates, warning him to exercise special precautions when crossing the company's line at highways in his machine.

Discussion on Rates and Fares at the Mid-Year Convention.—H. C. Donecker, secretary of the American Electric Railway Association, has sent to each member company a copy of the complete report of the committee on determining the proper basis for rates and fares. It is accompanied by a letter calling the attention of members of the association to the report and stating that it will be one of the topics for discussion at the January convention. The secretary urges all members to read the report carefully, to digest the conclusions and to come prepared to give others in attendance at the January convention the benefit of their ideas and personal experience.

Fare Changes on Catskill Electric Railway.—The Catskill (N. Y.) Electric Railway has announced a number of changes in its passenger tariff effective on Jan. 5, 1912. After that date commutation ticket books containing twenty-one tickets, each of face value of 5 cents for transportation between local stations, will be sold for \$1 per book. This is a new rate. The sale of the following forms of commutation will be continued on the date mentioned; books of tickets good for twenty-one rides between Catskill and Leeds, price \$2 per book; books containing detachable coupons of face value 5 cents for 1000 rides within 5-cent limit, price \$30 per book; round-trip party fare (for thirty or more persons traveling together) between Catskill and Leeds, 12 cents per capita, conceded.

Decision in Milwaukee Car License Fee Case.—The Supreme Court of Wisconsin has affirmed the decision of Judge Turner in the lower court, holding that the city of Milwaukee is not entitled to recover \$187,500 for licenses of \$15 each on street cars from 1895 to 1910. The court held that the ordinance imposing such a license fee was repealed in 1897 when the Legislature passed a law stating that payments to the State were to be in lieu of all other licenses. Eight months ago a new ordinance was passed levying a car license of \$15 per car. The licenses under this ordinance this year aggregate about \$8,000. According to City Attorney Hoar, the legality of this new ordinance remains to be determined by the Supreme Court in a suit now pending.

Michigan United Railways Advertisement.—A full-page newspaper advertisement is being published which describes the rapid growth of the Michigan United Railways, Jackson, Mich., and presents four prime reasons "why the Michigan United Railways is a modern road for modern people." These reasons have to do with cleanliness, frequency of trains, economy and personal comfort, and the

arguments from each viewpoint are presented. "Midwinter third-rail travel features" include descriptions of the electric route, of the long-distance trains to and from Detroit, of package freight delivery, of theater schedules and of chartered-car service. A slogan at the bottom of the advertisement says, "You're on the right train when ticket reads 'M. U. R.'" The same newspaper in which the advertisement appeared contained a half-page article describing the improvements which the company has made at Jackson during the past year at a cost of \$338,000 under the supervision of A. W. McLimont, vice-president and general manager.

Fare Changes on the Rochester, Syracuse & Eastern Railroad.—Effective on Jan. 1, 1912, the Rochester, Syracuse & Eastern Railroad, Syracuse, N. Y., has announced that the joint one-way and round-trip fares from Rochester, Rochester City Line, East Rochester, Fairport, Palmyra, Port Gibson, Newark, Lyons, Clyde, Savannah, Weedsport and Jordan to Auburn (on Auburn & Northern) will be advanced 5 cents in each instance; and that advances will be made in chartered car rates, one-way and round-trip, from above named stations to Auburn. The company has also announced numerous changes in the joint one-way and round-trip fares from Rochester, Rochester City Line, East Rochester, Fairport, Macedon, Palmyra, Port Gibson, Newark, Lyons, Clyde, Savannah, Port Byron, Weedsport, Jordan, Memphis and Warner to Baldwinsville, Phoenix, Fulton, Minetto and Oswego and from same stations, except Port Byron, Memphis and Warner, to Skaneateles and Marcellus.

Accident Prevention Campaign at Boston.—The Boston (Mass.) Elevated Railway has begun a campaign to reduce accidents. Special emphasis is laid on the problem of casualties to children and minors. A feature of the work is the publication of an advertisement in the newspapers calling attention to the importance of accident prevention work, the opportunities for the co-operation of the public and the dangers of urban life, particularly those associated with the use of thoroughfares for travel. In order to stimulate interest the company is offering 204 prizes in gold for the best verses in rhyme of not more than twenty-four lines concerning caution in the streets, and particularly in relation to street cars. A first prize of \$50 is offered, with second, third and fourth prizes of \$25, \$15 and \$10 respectively. The other prizes are for \$2.50 each. The verses awarded first prize will be printed in attractive form for distribution among the pupils of the grammar, primary and kindergarten grades in the metropolitan district, and will also be issued for general circulation. The contest will close on Jan. 1, 1912.

Recent Work of Railroad Commission of Pennsylvania.—Much of the time of the State Railroad Commission of Pennsylvania has been taken up recently with complaints against electric railways. Chesinck Borough complained about the fares on the Allegheny Valley Street Railway. The Lewisburg, Milton & Watstown Passenger Railway has answered the complaint regarding alleged inadequate passenger station facilities at Mifflinburg and unsatisfactory service between Watstown and Milton. A complaint about ventilation and over-crowding of cars of the Valley Traction Company, operated between Lemoyne and New Cumberland, has been filed by Frank R. Leib. The Reading Transit Company has answered the complaint about the fenders which it uses. The company states that it is experimenting with the H-B fender, and will adopt any type of fender that the commission will recommend. The commission's accident figures for October show that on the street railways twenty-seven persons were killed and 310 injured. The fatalities included two employees and three passengers. It is announced that Charles N. Mann, Philadelphia, will be reappointed to the Railroad Commission for four years by Governor Tener.

Adjusting Accident Claims in Portland, Ore.—B. S. Josselyn, president of the Portland Railway, Light & Power Company, Portland, Ore., addressed the executive committee of the Pacific Coast Claim Agents' Association at a recent meeting of that body in Portland. In referring to the work of the claim department of the Portland Railway, Light & Power Company, Mr. Josselyn said in part: "Until the human race learns how to adjust its affairs

and work out its problems according to a properly defined principle, there will be accidents, and the necessity for claim agents on transportation lines will continue. If the claim agent will adopt the golden rule of doing unto others as he would be done by, his principle of doing business will soon be understood by the public and lawsuits for the collection of damages for personal injury or property damage will disappear. Our claim agent is instructed to effect a speedy settlement of the case on its merits, based upon the accepted schedule of the old established accident insurance companies. Under this plan the only cases that reach the courts are those that we honestly believe are 'fakes,' or where responsibility is assumed by the company and the amount of the damage cannot be agreed upon. We are often able to keep the latter class out of the courts by leaving determination of the award to disinterested parties as arbitrators."

Re-routing Ordered in Milwaukee.—The Railroad Commission of Wisconsin has ordered The Milwaukee Electric Railway & Light Company to give crosstown service in Milwaukee. The order is for ninety days. At the hearing before the commission it was represented that there were a large number of mechanics residing on the north side of the city who were employed on the south side and at West Allis, who must transfer twice to get to their destinations, and that this traffic is during the rush hours of the day and subject to delays. The commission directs the company for three months to route a sufficient number of cars to care for the traffic, operating on its Eighth Street line from the northern terminus to State Street, west on State Street to Eleventh Street, thence south on Eleventh Street across the viaduct to Eleventh Avenue, thence south to Mukegee Avenue and to its present southern terminus. The company must also continue to route during the morning, noon and evening hours, when traffic is greatest, a sufficient number of cars to provide for the traffic over the Eighth Street line as at present routed to West Water Street. The commission says that the existing lines north of the river are so located that they cannot be transformed so as to serve adequately the needs of people who desire to travel with the least inconvenience between the north and south sections of the city, and that they were originally designed and constructed solely with a view of carrying traffic to downtown districts before any demand for crosstown service had arisen.

Service Order in Savannah.—The Railroad Commission of Georgia has rendered its decision upon the petition of a committee representing the patrons of the Savannah (Ga.) Electric Company for improved service on the city and suburban lines of the company. For the most part the report deals with car routing and other subjects of local interest only. There are a number of recommendations, however, of general interest. Among other things the commission has recommended that the company equip all of its double-truck cars with air brakes within ninety days; that the rule regarding the seating of passengers according to races be rigidly enforced; that all delays to cars be reported to the commission monthly, and that conductors be required to call street names or stations where stops are made. The commission has refused to grant the request to require the company to provide separate cars for the races on suburban lines on Saturday and to require the company to grant additional transfer privileges in the city proper. In reference to the petition for reduced fares on suburban lines and for a revision of the freight tariff, the commission says: "It is impossible for the commission to deal with these questions intelligently and fairly until it shall have ascertained accurately the earnings of the company. The financial statements submitted by respondent do not clearly segregate the general expenses of the railway department and the lighting department, and for the commission to attempt to pass upon the question of rates without more accurate information as to the earnings of the railway department might result in injustice. The commission, therefore, will pass a separate order directing an immediate audit of the earnings of the company, by an accountant employed by the commission, and will render its judgment upon the petition for a reduction or change in passenger fares and freight tariffs at the earliest possible date thereafter."

Personal Mention

Mr. Frank Burton has been elected secretary of the Fonda, Johnstown & Gloversville Railroad, Gloversville, N. Y., to succeed George M. Place, deceased.

Mr. E. M. Mills, formerly vice-president of the Seattle, Renton & Southern Railway, Seattle, Wash., has been elected president of the company to succeed Mr. W. H. Crawford, resigned.

Mr. C. B. Fulton has resigned as superintendent of the Philadelphia & West Chester Traction Company, Upper Darby, Pa. Mr. Fulton has been connected with the company for thirteen years.

Mr. L. A. Roehry, of the engineering department of the Illinois Traction System, Champaign, Ill., has been appointed combustion engineer of the company, reporting to the chief operating engineer.

Mr. Ernest J. Beach has been appointed assistant treasurer of the Fonda, Johnstown & Gloversville Railroad, Gloversville, N. Y., to succeed Mr. Lyman K. Brown, who has been elected treasurer of the company.

Mr. Lyman K. Brown has been elected treasurer of the Fonda, Johnstown & Gloversville Railroad, Gloversville, N. Y., to succeed George M. Place, deceased. Mr. Brown was formerly assistant treasurer of the company.

Prof. Philip S. Biegler, of the University of Montana, Missoula, Mont., is delivering a series of lectures on applied electricity to the employees of the Northern Pacific Railroad at Missoula. These lectures are in connection with the extension work being done by the School of Engineering of the university.

Mr. R. F. Carley, operating engineer of the Illinois Traction System, Champaign, Ill., has been appointed chief operating engineer of the system to succeed Mr. W. E. Thompson, whose appointment as general superintendent of the Des Moines (Ia.) Electric Company is noted elsewhere in this column.

Mr. W. E. Thompson, chief operating engineer of the Illinois Traction System, Champaign, Ill., has been appointed general superintendent of the Des Moines (Ia.) Electric Company to succeed Mr. P. B. Sawyer, whose appointment as general manager of the Union Electric Company, Dubuque, Ia., was noted in the *ELECTRIC RAILWAY JOURNAL* of Dec. 2, 1911.

Mr. A. G. Moore, who has been connected with the office of the treasurer of the Louisville & Southern Indiana Traction Company and the Louisville & Northern Railway & Lighting Company, New Albany, Ind., has been appointed to take charge of the newly created publicity department of the companies in charge of the special campaign which is to be conducted to further industrial activity in the territory opposite Louisville on the Indiana side of the Ohio River.

Mr. C. G. Taylor, superintendent of the Cleveland, Southwestern & Columbus Railway, Norwalk, Ohio, has been elected president of the Norwalk Chamber of Commerce. Mr. Taylor was connected with the Cleveland Electric Railway for several years and with the auditor's office of the Cleveland, Southwestern & Columbus Railway for five years previous to his appointment as superintendent. He has been in charge of the affairs of the company at Norwalk since June, 1910. Mr. Taylor was mentioned as a candidate for Mayor at the last election in Norwalk, but he declined to be named for public office.

Mr. John J. Linden has resigned as general manager of the County Traction Company, Chicago, Ill., to become general manager of the Seattle, Renton & Southern Railway, Seattle, Wash., to succeed Mr. W. H. Crawford, who has resigned as president and general manager of the company. Mr. Linden has been connected with the Chicago (Ill.) Railways and allied properties for more than twenty years. He was formerly superintendent and then general manager of the Suburban Railroad, Chicago. Later he was general superintendent of the Chicago Consolidated Traction Company. He has been general manager of the County Traction Company since the organization of the company in January, 1911.

Mr. S. J. Ryder has resigned as superintendent of the Ft. Wayne lines of the Ft. Wayne & Northern Indiana Traction Company, Ft. Wayne, Ind. Mr. Ryder began his career as a conductor in Ft. Wayne in 1896, when the line was owned by M. Stanley Robison. From conductor he was made night carhouse foreman and later day foreman and timekeeper. In 1907 he was appointed superintendent of the Logansport city lines which he managed for more than two years. He was later transferred to Lafayette in charge of that division and remained in that capacity until he was appointed superintendent at Ft. Wayne. Mr. Ryder will engage in business for himself.

Messrs. Lucien Tissier, engineer of rolling stock, Henri Collet, electrical engineer, Maurice Colin, technical engineer, and André Raynaud, engineer of traffic, Metropolitan Railway, Paris, returned to France on Dec. 14, 1911, after a trip of inspection which they have been making in this country, lasting about ten weeks. These gentlemen arrived in America in time to attend the Atlantic City convention. Later they visited Philadelphia, Baltimore, Washington, Boston, Niagara Falls, Chicago, Milwaukee, Rochester, New York and other cities to study the latest developments of electric traction with a view to their application on an extension that the Metropolitan Railway is building in Paris. This line has a length of 50 miles of subway, all double track, and the extension is to be 30 additional miles of double track, making 80 miles of double track in all. Engineers from the Metropolitan Railway have visited this country regularly at intervals of two to three years since the line was opened in 1900. The visitors this year speak of their trip as having been very instructive and profitable.

Mr. Frederick James Volney Skiff, M. A., LL.D., director of the Field Columbian Museum at Chicago for the last fourteen years, has accepted the appointment of director-in-chief of foreign and domestic participation in the Panama-Pacific International Exposition, which is to be held in San Francisco in 1915. Mr. Skiff is a member of the French Legion of Honor and has been decorated by the governments of Germany, Japan, Belgium, Austria, China, Italy, Turkey, Siam, Bulgaria and Portugal. He was national commissioner of the World's Columbian Exposition in 1893, and later chief of department of mining and metallurgy and deputy-general of that exposition. He organized the award system of the Nashville Exposition in 1897 and was director-in-chief of the United States Commission at the Paris Exposition in 1900, commissioner at the Turin Exposition in 1902, and director of exhibits at the Universal Exposition at St. Louis in 1904. He was also first vice-president of the superior jury of the St. Louis Exposition and a member of the board of administration of the International Congress of Arts and Sciences held in connection with that exposition.

OBITUARY

John P. Van Leuven, assistant superintendent of the Cincinnati (Ohio) Traction Company, is dead. Mr. Van Leuven had been in the employ of the company for twenty-five years.

E. C. Norton, vice-president and general manager of the Norton Logging Company and vice-president of the Northwestern Cedarmen's Association, died at his home in Escanaba, Mich., on Dec. 9, 1911. Mr. Norton was formerly connected with the Kellogg Switchboard & Supply Company.

A movement is under way to secure legislation in Kentucky for a commission of public utilities. It is said that the first definite action toward the institution of such a body will be taken in a recommendation along this line by Governor James B. McCreary in his first message to the State Legislature in January. The work of the State relative to the regulation and enfranchisement of public-utility corporations is at present performed by the auditor of public accounts, the state treasurer and the secretary of state acting as a special committee. It has become too onerous, however, and it is proposed to form a special commission, modeled along the lines of the State Railroad Commission, to handle the questions which arise in the regulation, taxation and adjustment of difficulties with electric railways, electric companies and other public-service bodies.

Construction News

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

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

RECENT INCORPORATIONS

***North Macon Railway, Macon, Ga.**—Application for a charter has been made in Georgia by this company to build an electric railway in Macon from the Masonic Home beyond North Highlands through Macon and out to the Waterville Road.

***Keokuk Electric Company, Chicago, Ill.**—Chartered in Illinois to build electric and steam railways in Illinois. Capital stock, \$650,000. Incorporators: George Higginson, Jr., Joseph L. Valentine and Robert H. Van Deusen.

***Decatur-Pana Southern Railway, Decatur, Ill.**—Chartered in Illinois to build an electric railway from Decatur to Pana, via Macon, Moweaqua and Assumption. Headquarters: Decatur. Capital stock, \$25,000. Incorporators and first board of directors are: H. S. Ashcraft, J. W. Lockett, Howard G. Hodgkins and John H. Martin, all of Chicago.

***Johnston City Connecting Railway, Johnson City, Ill.**—Incorporated in Illinois to build an interurban railway in Williamson County. Principal office: East St. Louis. Capital stock, \$5,000. The incorporators and first board of directors are: E. J. Pearson and T. L. Phillips, St. Louis, Mo.; L. O. Whitnel, H. L. Browning and T. E. Gillespie, East St. Louis, Ill.

***Perry County Interurban Railway, Springfield, Ill.**—Incorporated in Illinois to build an interurban railway through Perry County between Pinkneyville and Duquoin. Headquarters: Springfield. Capital stock, \$2,500. Incorporators and first board of directors are: G. W. McIntyre and F. A. Spitznagel, Jr., of Springfield; Isaac Black, Duluth, Minn.; A. C. Sprague, Dubois, Ill., and William Roessler, St. Paul, Minn.

***St. Joseph (Mo.) Electric Railroad.**—Incorporated in Missouri as a subsidiary company of the Kansas City, Clay County & St. Joseph Railway, Kansas City, to build an electric railway in St. Joseph. Capital stock, \$50,000. Incorporators: J. G. Schneider, W. W. Vansant and C. F. Enright.

Snow Shoe Electric & Street Railway Company, Snow Shoe, Pa.—Chartered in Pennsylvania to build a 2-mile electric railway from Snow Shoe to Clarence. Capital stock, \$12,000. J. M. Shearer, president. [E. R. J., Sept. 9, '11.]

***Seattle & Eastern Railway, Seattle, Wash.**—Incorporated in Washington to build a 15-mile electric railway along the east shore of Lake Washington between Issaquah and Factoria. Right-of-way has been secured. Headquarters, Seattle. Capital stock, \$1,500,000. Incorporators: R. S. Terhune, Olympia, president; George F. Aust, Arthur Schramm, Arthur Schramm, Jr., W. K. Keene, Oscar S. Springer and C. D. Folger.

FRANCHISES

Los Angeles, Cal.—The Pacific Electric Railway has received a thirty-year franchise from the Council to extend its Washington Street line from Lake Avenue and the east city limits. This extension will establish a line between Los Angeles and the new Nazarene University.

Waterville, Conn.—The Connecticut Company has received a franchise from the Board of Aldermen in Waterville.

Boise, Idaho.—The Boise Valley Railway has received from County Commissioners a fifty-year franchise for an extension from the Ninth Street bridge to connect with its line in South Boise. The company plans to build a bridge over the Boise River at Ninth Street.

Galesburg, Ill.—The Galesburg Railway & Light Company has asked the City Council for franchises to build several extensions in Galesburg.

Springfield, Ill.—The Springfield Consolidated Railway will ask the City Council for a franchise to double track South Eighth Street from Monroe Street to South Grand Avenue in Springfield.

Gary, Ind.—The Indianapolis, Chicago & Meriden Railway, Indianapolis, has received a franchise from the City Council over Seventh Avenue in Gary. The line will connect Indianapolis, Sheridan, Gary, Valparaiso, Hammond, Monticello and Warsaw. M. J. Mooreland, secretary. [E. R. J., Nov. 11, '11.]

South Bend, Ind.—The South Bend & Logansport Traction Company has received on its franchise an extension until Aug. 1, 1912, in which to build its line through St. Joseph County.

Des Moines, Ia.—The Des Moines Railway has asked the City Council for a franchise to extend its line from East Eighth Street to East First Street in Des Moines.

Reading, Mass.—The Bay State Street Railway will ask the Selectmen for a franchise to relocate its tracks on several sections of its lines in Reading.

St. Louis, Mo.—The Southern Traction Company of Illinois, East St. Louis, has asked the City Council for a franchise for municipal bridge privileges and for a loop in St. Louis.

Teaneck, N. J.—The Public Service Railway, Newark, will ask the Township Committee for a franchise to extend the Bergen Turnpike line through Teaneck from the Ridgefield Park line north to the Hudson River Traction Company's line. The company has received a fifty-year franchise to build through Ridgefield Park. It will also ask for a franchise in Bogota.

St. George, N. Y.—The Richmond Light & Railroad Company, New York, has received on its franchise a six months' extension of time within which to complete the construction of its line along Arrietta Street, the new viaduct leading from Jay Street to the Municipal Ferry at St. George, Staten Island.

Poland, Ohio.—G. E. Rose and John Harrington have received a franchise from the Village Council to build an electric railway in Poland. [E. R. J., Nov. 25, '11.]

Hamilton, Ont.—The Hamilton, Waterloo & Guelph Railway, Hamilton, will ask Parliament for an extension of its franchise in which to build its line in Hamilton.

***Coraopolis, Pa.**—The Coraopolis & Woodlawn Interurban Railway has asked the County Commissioners for a franchise over 1½ miles of the Stoop Ferry road for its railway between Coraopolis and Woodlawn.

Chattanooga, Tenn.—The Chattanooga Traction Company has asked the City Commissioners for franchises to build in Chattanooga to the city limits in four directions. C. E. James is interested. [E. R. J., Nov. 13, '11.]

Chattanooga, Tenn.—The Chattanooga, Rome & Atlanta Railway, Chattanooga, has asked the Board of City Commissioners for a franchise in Chattanooga. The company owns the right-of-way through Chickamauga Park and it expects to connect Chattanooga with Atlanta and other cities in northern Georgia. John H. Hill is interested. [E. R. J., Nov. 25, '11.]

Knoxville, Tenn.—The Knoxville Railway & Light Company has received permission from the Knox County Road Commission to build for a distance of 1½ miles along the Island Home pike.

Salt Lake City, Utah.—The Utah Light & Railway Company has received a franchise from the City Council on Main Street and Second North Street to West Capitol Street and the Capitol grounds in Salt Lake City.

Richmond, Va.—The Richmond & Henrico Railway has asked the Board of Supervisors for a franchise for a 2½-mile extension in the East End.

Seattle, Wash.—Plans for the municipal electric railway in Seattle from Third Avenue and Stewart Street to Salmon Bay have been approved by the Board of Public Works. Oliver J. Erickson, Seattle, is interested. [E. R. J., Oct. 7, '11.]

Racine, Wis.—The Milwaukee Electric Railway & Light Company has asked the City Council for franchises for three extensions in Racine.

TRACK AND ROADWAY

Edmonton (Alta.) Radial Railway.—This company will spend \$506,000 in improvements during 1912. A double-

track extension will be built on Spruce Avenue; another will be made on the high level bridge and a line will be constructed on Twenty-fourth Street. Nearly \$275,200 will be used for additional track equipment.

***Vancouver, B. C.**—It is reported that McEvoy, White-side & Buddle, Vancouver, are advertising a formal application for the incorporation of a company to build and operate a line in Vancouver.

***Del Monte Heights, Cal.**—H. R. O'Bryan, it is reported, plans to build an electric railway from Del Monte Heights, Pacific Grove, to the Hot Springs.

***Fresno, Cal.**—J. C. Forkner, Fresno, and others plan to build an electric railway from Fresno, via the Bullard district, to the San Joaquin River.

Pacific Electric Railway, Los Angeles, Cal.—Work has been begun by this company on a 50-mile extension from the terminal of the Southern Pacific Railway in Pollasky to within a short distance of the summit of the Sierra Mountains. It is to extend to the Big Creek site of the San Joaquin Light & Power Company, where large hydro-electric construction is being carried on. It was announced that the 11-mile extension from Hollywood to Lankershim and Van Nuys would be opened on Dec. 16.

***Nevis, Cal.**—It is reported that an electric railway will be built from a connection with the Western Pacific Railroad, near Virgilia, to Nevis, a distance of 27 miles. The Great Western Power Company is said to be interested.

Oakland, Antioch & Eastern Railway, Oakland, Cal.—This company has recently extended its line to Lafayette.

***San Bernardino, Cal.**—A bonus of \$14,000 raised toward the cost of constructing an electric railway from the north-west section of San Bernardino to the business district will be offered to the Pacific Electric Railway.

***San Fernando, Cal.**—E. D. Good, Glendale; C. P. Grogan and T. Miller, San Fernando, plan to build an electric railway from North Sherman Way in Van Nuys to Hubbard Avenue in San Fernando.

San Francisco, Oakland & San Jose Railway, Oakland, Cal.—Entire right-of-way over private property has been secured and as soon as the surveys are completed construction will be begun on this company's extension from Oakland to San Jose.

Southern Pacific Company, San Francisco, Cal.—This company has placed in operation its Seventh Street line in Oakland from the Oakland Pier to Melrose.

Peninsular Railway, San Jose, Cal.—Plans are being made by this company to build a new line to Alum Rock Park.

Norfolk & New Canaan Street Railway, Norfolk, Conn.—Plans and specifications are being made by this company preparatory to the construction in the spring of its proposed electric railway between Norwalk and New Canaan. [E. R. J., Sept. 16, '11.]

St. John's Light & Power Company, St. Augustine, Fla.—This company plan to build a 1-mile extension below South Beach.

Nampa & Caldwell Electric Railway, Nampa, Idaho.—Work has been begun by this company on its 10-mile railway between Nampa and Caldwell. A. B. Little, agent for the Cleveland Construction Company, will superintend the work. [E. R. J., Sept. 16, '11.]

Illinois Traction System, Peoria, Ill.—This company has placed in operation its northern extension from Morris to Joliet, a distance of 22 miles. It is reported that the company will build a line from Mackinaw, 20 miles northwest of Bloomington, to La Salle next year.

Quincy & Western Interurban Railway, Quincy, Ill.—This company has turned over to City Engineer Bushnell of Quincy, frontage permits for 7 miles in the city and after its approval will ask the City Council for a franchise. Power will be obtained from the dam at Keokuk. Henry Dayton, Quincy, president. [E. R. J., Oct. 7, '11.]

Manhattan City & Interurban Railway, Manhattan, Kan.—During the next six weeks this company will build 16 miles of new track. It will also built four new bridges. The company has about 7 miles graded and contracts let for about 1300 tons of rails and 10,000 ties. It is in the market for additional ties and rails.

Louisville (Ky.) Railway.—Plans are being considered by this company for an 8-mile extension of its Fern Creek line to Mt. Washington.

Owensboro (Ky.) City Railway.—This company plans to build an extension on Fourth Street and Wing Avenue in Owensboro.

New Orleans Railway & Light Company, New Orleans, La.—This company plans to build an extension of its Villere line to Milneburg.

Rockland, South Thomaston & St. George Railway, Rockland, Maine.—This company has petitioned Rockland for a right-of-way to take its traffic over its own tracks to the Maine Central Railroad and the shopping section of Rockland. It now turns its cars over to the Rockland, Thomaston & Camden Street Railway, to be taken into Rockland. If permission is secured, a petition will be filed with the Maine Railroad Commissioners for the right to build.

***Albion, Mich.**—Frank A. Young, Jackson, and others are considering plans to build an electric railway from Albion to Charlotte, via Duck Lake.

Thumb District Improvement Association, Port Huron, Mich.—This company has been organized to secure the construction of an electric railway through the Thumb District to connect Detroit and Bad Axe, via Mt. Clemens, Capac, Brown City, Snover, Argyle and Ubyly, with the ultimate destination at Port Austin. A. E. Riopelle, 808 Chamber of Commerce Building, Detroit, general manager. [E. R. J., Dec. 9, '11.]

***Saginaw Bay Southwestern Railway, Saginaw, Mich.**—This company has been organized to build an electric railway from Owosso to Saginaw. Alva I. Jacobs, Detroit, is interested.

Twentieth Century Transportation Company, Winona, Minn.—Work will be begun by this company early in March on its electric railway to connect Chicago, Elgin, Rockford and Warren, Ill., Shullsburg, Platteville and Lancaster, Wis., Decorah, Ia., Rochester, Minneapolis and St. Paul, Minn. The company will do the construction and will not award any contracts. The company will furnish power for lighting purposes. Capital stock, authorized, \$1,000,000. Officers: Ernest Norwood, Lancaster, president and general manager; Robert Bailie, Sr., Lancaster, vice-president; A. Long, Lancaster, secretary; H. E. Eastman, treasurer, and A. G. Leisch, chief engineer. [E. R. J., Dec. 9, '11.]

Missoula (Mont.) Railway.—This company plans to build a 1-mile extension of its line with 60-lb. A. S. C. E. T-rails and 2½ miles of paving with vitrified brick paving and 80-lb. high T-rails.

Mount Beacon Incline Railway, Matteawan, N. Y.—This company will build 2 miles of roadbed and track with 30-lb. rails and a new trestle in the spring.

Rochester, Corning & Elmira Traction Company, Rochester, N. Y.—It is understood that plans are being considered to revive and complete the Rochester, Corning & Elmira Electric Railway between Rochester and Elmira, N. Y., by way of Corning and Hornell. This road was originally promoted by F. Augustus Heinz and Charles W. Morse prior to the year 1907. W. C. Gray was the engineer of the company.

Westchester Street Railroad, White Plains, N. Y.—Plans are being considered by this company to extend its line to North Tarrytown and thence to the Sleepy Hollow Cemetery.

Ohio Electric Railway, Cincinnati, Ohio.—A committee from the Hamilton Chamber of Commerce conferred in Cincinnati recently with officials of this company in regard to the conditions under which the company will agree to construct extensions to cover East Hamilton, Prospect Hill and Grand View subdivisions and on East High Street, Hamilton.

Columbus, Urbana & Western Electric Railway, Columbus, Ohio.—A new line from Columbus, through Delaware, Union, Hardin and Hancock Counties to Findlay, connecting there to make a direct route to Toledo, is being planned by this company. An extension from Wapakoneta to Kenton, a distance of 35 miles, is also being contemplated by the company, which has asked the Public Utilities Commission

for permission to issue \$1,500,000 in bonds and \$50,000 in additional common stock, to finance these projects.

Springfield & Washington Railway, South Charleston, Ohio.—This company has secured the necessary capital to build an extension to Washington C. H.

Portland, Eugene & Eastern Railway, Portland, Ore.—It is reported that this company has begun grading for its line between Eugene and Monroe.

Oregon Electric Railway, Portland, Ore.—This company has awarded a contract for 5000 ties to the Aldrich Lumber Company.

Oregon Electric Railway, Portland, Ore.—Grading has been begun by this company on its extension between Eugene and Albany, a distance of about 26 miles.

***Coraopolis & Woodlawn Interurban Railway, Coraopolis, Pa.**—This company plans to build a 10-mile electric railway between Coraopolis and Woodland, via Stoops Ferry, Glenwillard, Wireton, Scottsville. Application for a charter will be made on Jan. 1. Officers: E. C. Dithrich, president; A. C. Purdy, secretary; Harry G. Graham, treasurer, and J. H. Barrett and Charles Gibson, Jr., engineers, all of Coraopolis.

Slate Belt Electric Street Railway, Pen Argyl, Pa.—This company is in the market for track material. L. H. Mountney, Pen Argyl, general manager.

West Penn Railways, Pittsburgh, Pa.—In the spring this company will build a 10-mile line between Hunker and West Newton. The preliminary surveys have been made.

Montreal & Southern Counties Railway, Montreal, Que.—Among the improvements to be made by this company in the spring will be an extension from Longueuil east to Boucherville and thence to the Richelieu River, where it will touch St. Charles and St. Denis. Ultimately it is proposed to extend this portion of the line down along the St. Lawrence through Varennes and Vercheres to Sorel and back along the Richelieu River to St. Charles, making a loop in that district. Work is in progress on a bridge to span the Richelieu River at Chambly and the line will be extended on the far side of the river to Belœil and St. Hilaire. A branch to Laprairie will also be built.

Chattanooga Railway & Light Company, Chattanooga, Tenn.—This company is completing the reconstruction of its Mission Ridge line. It is expected that the line will be extended to McFarland Gap in the near future.

Corpus Christi Street & Interurban Railway, Corpus Christi, Tex.—This company will build 2 miles of new track and has purchased all material except overhead material, which will be No. 00 round wire span construction.

Trinity Valley Traction Company, Dallas, Tex.—It is reported that plans are being made by this company to organize and incorporate within the next few weeks. It will construct a line between Marlin, Temple, Austin, and San Antonio. J. V. Watkins, Dallas, president. [E. R. J., April 8, '11.]

***Van Alstyne, Tex.**—A. R. Nicholson, Greenville, and associates plan to build an electric railway from Greenville to Van Alstyne, via Merit, Blue Ridge and Westminster.

Virginia Railway & Power Company, Richmond, Va.—Plans are being considered by this company to build an extension of its Moran Avenue line to the Maury High School and North Ghent.

***Cle Elum, Wash.**—Plans are being made to build a 41-mile electric railway to extend from the coal camps to Cle Elum. The plans include the development of 10,000-hp in a site near Copper Lake.

Edmonds (Wash.) Electric Company.—This company advises that during the next sixty days it will begin the construction of its 4-mile electric railway between Edmonds and Seattle Heights. The power house will be located at Edmonds. Capital stock, authorized, \$50,000. Bonds, authorized, \$30,000. Headquarters: Room 105, Cobb Building, Edmonds. John Appleton, Seattle, president. [E. R. J., Nov. 25, '11.]

Seattle, Wash.—The Board of Public Works has approved the plans for the extension of the municipal railway from Third Avenue and Stewart Street to Salmon Bay. [E. R. J., Oct. 7, '11.]

Fairmont & Clarksburg Traction Company, Fairmont, W. Va.—Plans are being considered by this company to build a 2-mile extension from Haywood to Lumberport.

Merrill Railway & Lighting Company, Merrill, Wis.—During the next four weeks this company will award contracts to build 2 miles of double track and overhead work.

SHOPS AND BUILDINGS

Edmonton (Alta.) Radial Railway.—This company will build a new carhouse in Edmonton. The cost is estimated to be \$125,000.

Pacific Electric Railway, Los Angeles, Cal.—It is reported that this company will build a depot in Pasadena.

Pacific Gas & Electric Company, Sacramento, Cal.—This company has awarded a contract for the construction of an office building on Eleventh Street and K Street in Sacramento to E. C. Hemmings, Sacramento. The structure will be 80 ft. x 800 ft. of concrete construction, and four stories high. Construction will be begun at once.

Illinois Traction System, Peoria, Ill.—This company has opened its new temporary passenger terminal at the intersection of Lucas Avenue and High Street in St. Louis.

Manhattan City & Interurban Railway, Manhattan, Kan.—During the next few weeks this company will award contracts to build a carhouse and eight depots.

Louisville (Ky.) Railway.—This company has begun the improvement of the 10-acre tract of ground at Thirtieth Street and Broadway, in Louisville, which was secured some time ago and on which will finally stand the main repair shops of the company. The structure will be 100 ft. x 400 ft. An office building for the superintendent and quarters for employees will also be provided. Work on the building has been begun.

Berkshire Street Railway, Pittsfield, Mass.—The City Council of North Adams has granted the application of this company for permission to build a new freight house of wood and corrugated iron on Pearl Street, North Adams, to be 16 ft. x 40 ft. [E. R. J., Oct. 28, '11.]

Twentieth Century Transportation Company, Winona, Minn.—This company's repair shops for its proposed road will be located in Bloomington, Wis. Ernest Norwood, Lancaster, general manager.

Montreal & Southern Counties Railway, Montreal, Que.—This company has awarded the contract for a new carhouse in St. Lambert.

Rutland Railway, Light & Power Company, Rutland, Vt.—This company has purchased 10 acres of land in Fair Haven on which it will build a new carhouse to contain a paint shop and a machine shop. The company's present carhouses on South Main Street will be maintained and used for the belt line cars. A one-story building to be 60 ft. x 20 ft. will be erected at once on the new land for the purpose of storing construction machinery.

Milwaukee Electric Railway & Light Company, Milwaukee, Wis.—This company will open for occupancy on Jan. 1 its new carhouses and repair shops on Thirty-eighth Street and Cold Spring Avenue in Milwaukee.

POWER HOUSES AND SUBSTATIONS

Edmonton (Alta.) Radial Railway.—This company plans to purchase two rotary converters in the near future.

Illinois Traction System, Peoria, Ill.—This company has completed its new hydroelectric station at Marseilles, which will furnish power for the Ottawa, Morris and Joliet lines.

Manhattan City & Interurban Railway, Manhattan, Kan.—During the next few weeks this company will place contracts to build a new power house. It expects to purchase an oil or steam engine, two or three large boilers, a 200-kw direct-current belted or direct-connected generator, and a 75-kw, 125-volt direct-current belted generator.

Gulfport & Mississippi Coast Traction Company, Gulfport, Miss.—This company will soon purchase a 2500-kva turbo-generator for its power house in Gulfport.

Spokane & Inland Empire Railroad, Spokane, Wash.—This company will soon purchase one 500-kw motor generator set for its power plant in Spokane.

Manufactures & Supplies

ROLLING STOCK

T. J. Bailey, St. Petersburg, Fla., is asking for prices on gasoline motor cars.

J. C. Brackenridge, New York, N. Y., is asking for prices on twenty closed cars.

Edmonton (Alta.) Street Railway will probably purchase fifteen cars during 1912.

San Diego (Cal.) Electric Railway has ordered forty-eight Brill 39-E trucks from The J. G. Brill Company.

Manhattan City & Interurban Railway, Manhattan, Kan., expects to purchase three interurban and seven open cars.

Georgia Railway & Electric Company, Atlanta, Ga., expects to build twenty-trucks pay-as-you-enter cars in its own shops.

Wilkesbarre & Hazleton Railway, Hazleton, Pa., has ordered one 60-ton electric locomotive from the General Electric Company.

Hudson Valley Railway, Glens Falls, N. Y., has ordered three 28-ft. 1½-in. closed motor car bodies from the Wason Manufacturing Company.

British Columbia Electric Railway, Vancouver, B. C., has ordered twenty-five 30-ft. 1-in. semi-convertible closed motor car bodies from The J. G. Brill Company.

Savannah (Ga.) Electric Company has been ordered by the Railroad Commission of Georgia to equip all of its double-truck cars with air brakes within ninety days.

Bellingham-Skagit Railway, Bellingham, Wash., has ordered four combination interurban car bodies from the St. Louis Car Company, through Stone & Webster, Boston, Mass.

Peekskill Lighting & Railroad Company, Peekskill, N. Y., has ordered three 20-ft. 8-in. semi-convertible motor car bodies with Brill 21-E trucks without wheels and axles from The J. G. Brill Company.

Third Avenue Bridge Company, New York, N. Y., a subsidiary of the Third Avenue Railway has applied to the Public Service Commission of the First District for permission to issue stock to the amount of \$20,000 to purchase four cars to be operated over the Queensboro Bridge.

TRADE NOTES

General Electric Company, Schenectady, N. Y., has appointed C. W. Stone manager of the lighting department to succeed C. D. Haskins, deceased.

American Rolling Mill Company, Middletown, Ohio, on Dec. 8 entertained the members of the National Corrugated Culvert Association at its works in Middletown following the annual convention of that body in Chicago.

Joseph G. Gettrust, who for sixteen years was mechanical inspector of the Galena-Signal Oil Company, has been appointed Southern railway representative of the Ashton Valve Company, Boston, Mass., with office in Chicago.

Edward P. Burch, Minneapolis, Minn., consulting engineer, with C. L. Pillsbury and ten assistants, is making a physical examination and valuation of the Duluth-Superior Traction Company's electric railway properties in and near Duluth, Minn.

Galena Signal Oil Company, Franklin, Pa., has appointed W. H. Pope chief of the mechanical expert department of the company. Mr. Pope was for five years general manager of the Pittsburgh & Butler Street Railway and the Butler Passenger Railway.

Ralph Birchard, formerly manager of the *Railway Electrical Engineer*, Chicago, has entered the employ of the Edison Storage Battery Company, Orange, N. J. Mr. Birchard is in the sales department, where his duties will include the preparation of bulletins covering the uses of the Edison battery. The change became effective Dec. 1.

Allis-Chalmers Company, Milwaukee, Wis., will be reorganized. In connection with the reorganization a protective committee of the holders of the company's 5 per cent bonds has been formed. The committee consists of James N. Wallace, president Central Trust Company of New York, chairman; R. Walter Leigh, Charles W. Cox,

Fred. Vogel, Jr., and John H. McClement. The Central Trust Company is to be the depository of the bonds.

National Brake & Electric Company, Milwaukee, Wis., will erect an iron foundry in Milwaukee during the coming year. Plans will soon be drawn, and work will be begun next spring. To finance this improvement and also to pay for several additions made to the plants of the company during the past year the capital stock of the company has been increased from \$1,000,000 to \$2,000,000. The business of the company for the present year will amount to about \$2,000,000, an increase of about 25 per cent over the previous year.

International Steam Pump Company, New York, N. Y., at the annual meeting of the stockholders on Dec. 12 elected H. B. Hollins, Walter Kutzleb and A. W. Kenworthy directors to succeed William Barber, Charles S. Hirsch and Charles K. Allen. The report of the company for the eighteen months ended Sept. 30, 1911, showed net profits from combined operations of associated companies of \$2,676,449; interest on bonds and discount of bonds, \$800,176; dividends on preferred stock, \$1,289,700; total interest and dividends, \$2,169,876; balance added to surplus of undivided profits of associate companies, \$506,573.

Dorner Railway Equipment Company, Chicago, Ill., announces that it recently has made the following sales: Three double-truck trail cars to the Chicago & Southern Traction Company, one double-truck car with four GE-1000 motors and Westinghouse air brakes to the North Kankakee Electric Light & Railway Company, one double-truck car with Westinghouse air brakes to the Lake Erie, Bowling Green & Napoleon Railway, six double-truck cars equipped with GE-57 motors and National air brakes to the Cleveland, Southwestern & Columbus Railway, one double-truck car equipped with GE-57 motors and National air brakes to the Nebraska Traction & Power Company, Omaha, Neb.

S. George Freund, New York, N. Y., has opened an office as a consulting engineer for foreign trade at 100 Broadway, New York. His purpose is to act as a connecting link between American and foreign, especially German, industries in the mutual extension of their technical-commercial relations and the introduction in one country of enterprises and products which have been successful in the other. He is also prepared to assist American and German manufacturers in matters relating to import, export and manufacture and the exploitation of patents. Mr. Freund was connected with the electrical engineering department of the Interborough Rapid Transit Company during the construction of the subway. He has also engaged in other engineering work in this country and since 1901 has been American correspondent for the German *Elektrotechnische Zeitschrift*. He has just returned from Europe, where he opened a European office at Grunewaldstrasse 99, Berlin.

ADVERTISING LITERATURE

Bridgeport Brass Company, Bridgeport, Conn., is mailing a card which calls attention to the wearing qualities of its phono-electric trolley wire.

Rostand Manufacturing Company, Milford, Conn., has issued a fifty-page catalogue which lists and illustrates its complete line of fittings for electric and steam cars.

Joseph T. Ryerson & Sons, Chicago, Ill., are distributing a sixteen-page pamphlet in which Rockford planers are described and illustrated. The chief mechanical features of these shop tools are shown by half-tone views, the specifications for the different sizes are printed and special details are emphasized by line engravings.

Railway Improvement Company, New York, N. Y., has issued a 24-page catalog which describes the coasting time recorder system as devised and perfected by the company. The catalog is divided into three sections. The first section fully describes and illustrates the type H coasting time recorder, a description of which was printed in the *ELECTRIC RAILWAY JOURNAL* of Dec. 9, 1911. The second section describes the terminal clock. The third section is devoted to a discussion of the economies effected by the use of the company's coasting time recorder. Numerous charts showing the results of tests are included in this section.