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#### A Time Factor for Track Renewals

The growing practice of keeping track maintenance cost on what might be termed a unit section basis suggests the possibility of using this information to forecast the life and renewal period of newly placed material. This would be a far more difficult problem than that of determining when it no longer pays to tinker with an old installation. The first step would be to calculate the probable number, weight and speed of the cars to be moved over the given section of tangent or curved rail; the next would be to choose the track substructure and superstructure best adapted for the service, and last but not least it would be necessary to bear in mind the character of the district to be served. The way engineer's ideal is to apply the same upkeep standards throughout, but the manager often finds this impracticable. The denizens of slum and factory districts may show a calm indifference toward such track defects as low joints, corrugated rail and loose paving, while the inhabitants of wealthy districts usually consider themselves abused if a track greaser is not stationed at every curve. Any estimates of track life are therefore incomplete if no account is taken of the attitude of the community toward the upkeep of the system.

#### Double-Deck Cars in England

It is interesting to find that at the last meeting of the British Tramways & Light Railway Association considerable skepticism was expressed as to the value of the double-deck car. For many years this type of car has been the standard in the United Kingdom, although it has been tried and practically passed out of service on the Continent and it has been used and entirely abandoned in this country. It is proper to say, however, that British conditions are especially favorable to the use of the double-deck car. The climate there is such that an open upper deck may be used by passengers without hardship during the entire year, and for the greater part of the twelve months seats in this part of the car are preferred by the majority of passengers. Contrary to the general impression, the rainfall in the principal cities of Great Britain does not exceed in amount that in many cities in this country. The hours of rainfall may be greater, but the British cities do not have the torrential falls which would make an unprotected open deck in America uncomfortable at many times during the summer. On the other hand, the temperature in winter is much more mild than in this country. Despite these favorable conditions there has been a tendency during the last ten years to inclose the upper decks of many British cars, and at the Edinburgh convention a number of the leading delegates expressed the thought that after all a single-deck car



with trailer, such as is used on the Continent, was perhaps more desirable than the "juggernauts," as they were sarcastically called by their opponents. The principal arguments advanced in favor of the car-and-trailer plan were less destructive action on track, greater speed in receiving and discharging passengers and the ability on the part of the company to operate a lighter unit by omitting the trailer during slack hours. It is safe to say that it would take a long time to bring about a general change to single-deck cars in Great Britain, even if all the managements were in favor of such a step. The riding habits of the public there have been established by the use for many years of the upper decks of street cars and buses, and customs of this kind are not as easily subject to change dictated by engineering conditions as matters in which the passengers have less intimate relation, such as the type of motors or wheels, or even the kind of motive power. Again, the discussion at Edinburgh indicated that the average Englishman enjoys his pipe, and several of the managers were puzzled to know what to do with the smokers if the upper deck was abolished. Nevertheless, the fact that the subject has been raised in a serious way is an indication that there is a chance that this typical characteristic of British tramway practice may disappear, at least on some roads.

#### Solving the Set-Back Problem

The so-called setting back of cars—that is, of starting in a fresh crew and car when the regular outward car is so belated that the next trip would otherwise be late in starting—is one of the necessary evils of street railroading. If this method was not employed either the schedule would be completely demoralized or else a vast amount of time would have to be paid for longer regular layovers to cover possible exigencies. On the other hand, the hustle and bustle in the carhouse which surrounds the assignment of set-back crews and the high rate of pay attached to this work, even for a fraction of an hour, result in the loss of a considerable sum of money in the course of a year. Starters are not as careful about such assignments as they should be and are prone to overlook facts which have come to be daily occurrences. But if the set-back trips cannot be eradicated they may at least be controlled and the critical point should be determined at which it is cheaper to extend the layover time rather than pay the high cost of set-backs. The first requisite in a study of this kind on any particular road is to have available full information as to the extent to which the practice is being followed. This cannot always be obtained to very good advantage from the data supplied on the ordinary trip register sheets. Many conductors when they make out reports of set-back trips trust too much to their ability to remember the important facts after they return to the carhouse. Others, especially new conductors, are apt to become confused in filling in the data required by this class of service. To overcome this trouble one large company has recently adopted a special time card for set-back trips. It calls for the time of detail and relief, the schedule time of trip, the actual time of starting and return, the place where cars were exchanged, etc. As the set-back card is virtually a time card every minute of the expense is accounted for. When a man is assigned to set-back work the starter gives him one of these cards

and notes the time of issue. This means that the conductor has no excuse for not supplying complete information, for he has a card properly headed upon which to enter all data at the moment and of convenient size to fit in his day-card book. The claim department has also been greatly benefited by this innovation. It is now in possession for all these trips of regular time cards which are signed and are correct so far as they can be made. The transportation department is also in a good position to study this phase of the service. With a tabulating sheet the superintendent of transportation can easily determine all the trips which are regularly set back and the average number of minutes which they are late. He may then conduct an inquiry into the causes and if the schedule is at fault it may be changed as required.

#### DECREASING FIRE HAZARDS IN OLD CAR SHOPS

The reduction of fire risks in old carhouses and shops deserves the continued attention of those in charge of such properties. Few large systems are without one or two such structures, and as long as progress in building construction continues it will be possible to improve the fire protection of earlier plants. One of the first impressions made upon the visitor to an old wooden carhouse or repair shop is its liability of destruction by fire. Doubtless there are many buildings of this kind in service which ought to be abandoned, but as a practical question the problem which the operating company faces is to make the most of existing facilities while working toward their ultimate replacement.

It is surprising how much can be done to improve these old shops and car-storage buildings without an undue expenditure of money. The cost of installing sprinklers may or may not be warranted in particular cases, although a surprising amount of additional protection can be gained by their discriminating installation in the more exposed section of the plant. Examination of fire hazards discloses, as a rule, many relatively inaccessible and neglected corners which are prolific breeders of trouble through the accumulation of dirt and oily refuse. There is nothing new in the gospel of cleanliness, and few things are harder to keep in practice in an old wooden shop or carhouse, but here is found the first requisite of fire prevention. It is surprising to find the amount of debris and scrap which may often be removed from a carhouse if a determined effort is made to take it away. A great deal of this material, of course, is non-inflammable and is objectionable only because it serves as a hiding place for paper, bits of wood and even for oily waste and rags. But the only safe way is to remove it so that every part and corner of the carhouse will be free of everything except the necessary equipment. Beyond this the first essential is that of confining a small blaze to a very limited area once it gets a start.

Without repeating the regulations of the insurance companies it may be noted that fire hazards can be greatly decreased by substituting wired glass for transparent skylights, by going over the wiring of pits and installing conduits throughout, and if possible by providing for the first-class drainage of pit floors. If the company cannot afford to put down concrete in place of wood on all the



wearing surfaces of the house, it may improve the conditions a good deal by substituting concrete for the old wooden or earth pit bottoms. Fuses and switches for pit lighting service should be placed on slate or marble panels installed in such a way that a short-circuit cannot flash over into an inflammable structure. Another improvement is to substitute grouped sets of incandescent lamps installed under reflectors close to the ceiling for overhead drop lights serving the walkways between pits. In some cases the readjustment of the insulating trough supporting the trolley wire in the house is an important step in the direction of avoiding trouble through irregular alignment, with possible grounds and unexpected fire results. The desirability of the installation of fire hose and extinguishers is too obvious to require comment. The main line of inexpensive improvement, apart from the installation of sprinklers, is the removal of the minor conditions liable to cause trouble from apparently trivial sources. It is not a matter of great cost to substitute screened doors for ordinary wooden doors with a few perforated air outlets in lockers, but such a change may easily save a thousand times its cost in the prevention of fire. Generally speaking, prevention is far more important in old car-houses and shops than the taking of elaborate measures to extinguish a fire after it is under way, for the reason that once a blaze gains headway the possibilities of stopping it inside the building are small.

It is questionable if money can better be expended anywhere on a railway property than in providing for improved fire-preventive measures in old buildings, which frequently contain many thousands of dollars' worth of costly rolling stock.

#### THE OPERATION OF THROUGH CARS

The trip of the Illinois Traction System office car from St. Louis to Cleveland and return to Peoria, Ill., which was described in this paper last week, was a striking example of the possibilities of through travel on electric railways in the Central States. While it is doubtful whether regular operation of through passenger cars over such long inter-urban routes will ever be very profitable in competition with the service rendered by the steam roads, the experience of these companies which are now operating comparatively long-distance, joint through service is encouraging. Among the longest services over connecting lines may be mentioned those between Cleveland and Detroit, Dayton and Toledo, Cleveland and Columbus, Indianapolis and Toledo and Indianapolis and Detroit. All of these have been regularly conducted this year for every-day or Sunday excursions with through cars run over the tracks of three or more independent systems.

In the East the connecting suburban and interurban electric railways have done comparatively little to encourage through travel by arranging for the operation of through cars. Along that part of the Atlantic seacoast, for instance, which is crowded during the summer months with visitors and excursionists, there is an almost continuous line, physically speaking, of electric railways, all of them doing a good local business. But starting from any one of the large cities the excursion traffic seldom moves

beyond a very limited radius, a much smaller radius than the available transportation facilities would seem to invite. Cars of the class operated on such lines make fairly high speed and are comfortable for long rides. There is no reason why excursions should not easily be run for distances of 50 or 60 miles from the starting point and back the same day, providing suitable traffic arrangements were made to enable through cars to be operated. As it is now, if one wants to travel this distance, say along the seashore, the chances are that he will have to devote a day of abominably hard work to the excursion, going 10 or 15 miles on one road and then, after a long wait and a scramble for a seat, going about the same distance on the next section and so on to the end of the route, where the stay is necessarily shortened on account of the prospect of more waits and more scrambles on the way home. If, on the other hand, one could buy a through ticket for an excursion on a car running on a definite schedule and could proceed without change or without waits other than those necessary on single-track sidings, he could make the distance in three or four hours very comfortably and have ample time for a pleasant outing in the vicinity of his destination.

It is true that the opportunities for through travel in the East are probably not so great as those in the Central West. The competing steam service in the East is more frequent and the possible speed on the electric lines is less. It is also true that in some Eastern cities physical limitations in the special work and track and in clearances on curves might prevent the operation of through cars. Nevertheless, it would seem as if more could be done in this direction than is now being done. As it is now the public does not utilize the total facilities which are at its service, merely because these facilities are disconnected and unorganized. The condition of these short connecting electric roads doing a purely local business is little better than that of the early railroads of the country, when it was almost a point of honor for competing lines to dodge connections and to make through travel as uncomfortable as possible, each road working zealously in its own interest without a thought of the advantages of co-operation.

If there is any through business to be had on electric lines it must be developed in the way that long railway experience has shown to be profitable. If every train that ran from New York to Philadelphia or coastwise to Boston was a local train operating on a single-track road, stopping every few furlongs to take on passengers and waiting every few furlongs for more local trains to pass it, the number of through passengers would be much less than it is now. It has been found necessary in steam railway practice to establish a *modus vivendi* with other roads whereby comfortable through cars can be sent through over interconnecting lines without waits and delays and through tickets provided for the passengers. Of course in electric railway practice there is always the difficulty of moving through cars and frequent local cars on the same tracks. If the former have only a limited number of stopping places they can be kept clear of local traffic by following, or immediately preceding, one of the regular local cars and can make at least as good speed as the locals. With proper planning they can make much better speed by suitably arranging the passing points on single-track lines.

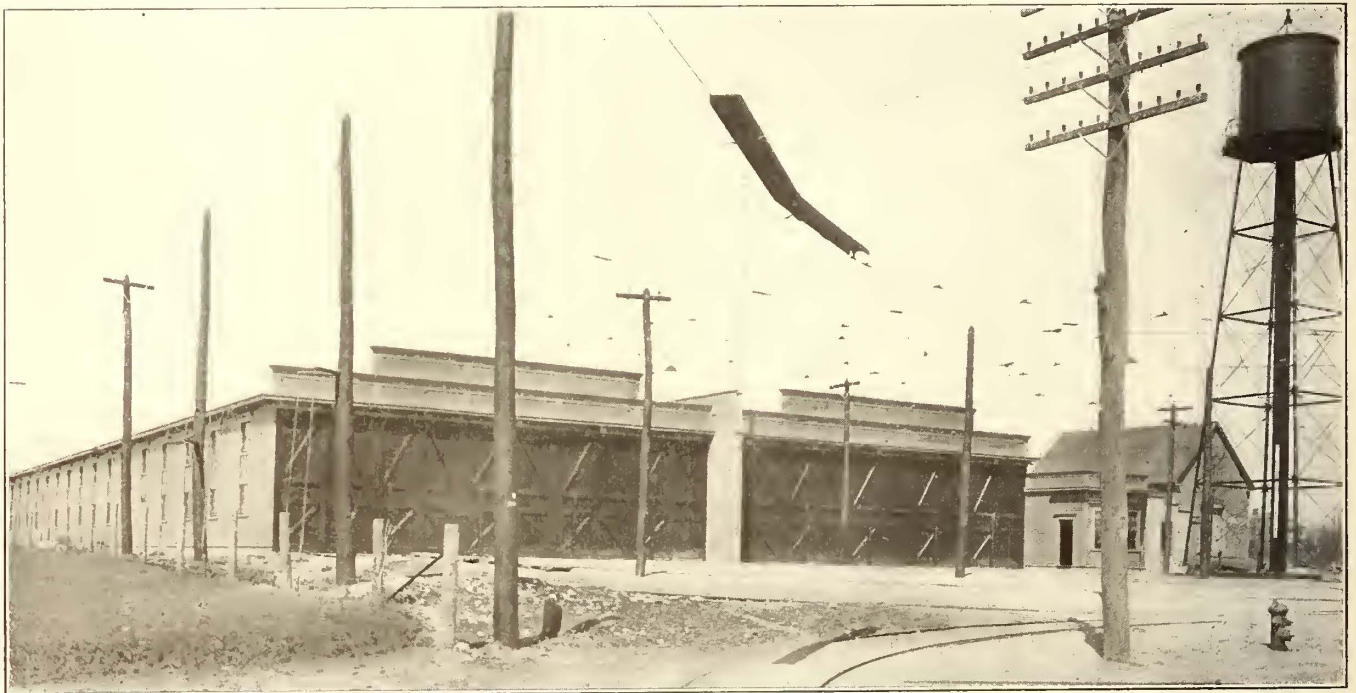


# New Carhouse of the Bay State Street Railway at Brockton, Mass.

One of Four Carhouses Completed Recently by the Department of Motive Power and Machinery of the Company, All of Which Are of a Typical Design with Respect to Fire Protection and Operating Arrangements.

The management of the Bay State Street Railway, which is a consolidation of the Boston & Northern and Old Colony Street Railways, has for many years been keenly interested in the protection against fire of rolling stock stored in carhouses, and special efforts have been made in the construction of all new carhouses and in extending existing buildings to reduce the fire risk to a minimum. The two companies operates about 1000 miles of track, serving the territory surrounding Boston on the north and south and extending from Rhode Island into southern New Hampshire. The department of motive power and machinery of the combined systems has recently completed four new carhouses of a typical design with respect to fire

front. Six of the tracks have concrete pits 4 ft. 6 in. deep, and facilities for washing cars are provided on three tracks. The floors between tracks are of cement throughout and the outer walls and doors are of wood. The roof is made of 3-in. plank, and the fire wall separating the two sections is of concrete, 17 in. thick. The foundations, piers and footings are concrete composed of one part cement, three parts sand and five parts crushed stone, maximum size to pass through a 2-in. ring. The concrete floors were mixed in the proportions of one part cement, three parts powdered stone and three parts small crushed stone. The top of the floor is lined off in 4-ft. squares. All main center posts, rafters, girders and front door posts are long-leaf yellow pine, the



Brockton Carhouse—Exterior View Showing Tank and Tower for Sprinkler System

protection and operating arrangement, located respectively at Brockton, Woburn, Revere and Reading, Mass. The largest of these carhouses is located at the intersection of West and Torrey Streets, in the western part of Brockton, nearly opposite the site of the Brockton Fair Grounds.

The new Brockton carhouse subdivides the carhouse service of the Old Colony Street Railway Division in that city, as the traffic requirements made it necessary to establish another depot instead of further expanding the existing carhouse and shop in the Campello district. The building is of mill construction, 281 ft. long by 134 ft. wide, and has a capacity of seventy double-truck semi-convertible cars, allowing 40 ft. of track per car. It consists of two sections separated by a fire wall extending beyond the building 5 ft. at each end and 5 ft. above the roof, which is of five-ply tar and gravel. A lean-to on one side extends the entire length of the building and contains an office for the operating foreman, a trainmen's lobby, lavatory, salt, sand, boiler and drier rooms, machine shop for light repairs and a stockroom. Five tracks are laid in each of the two sections of the house. All tracks are connected to a leading-in yard in

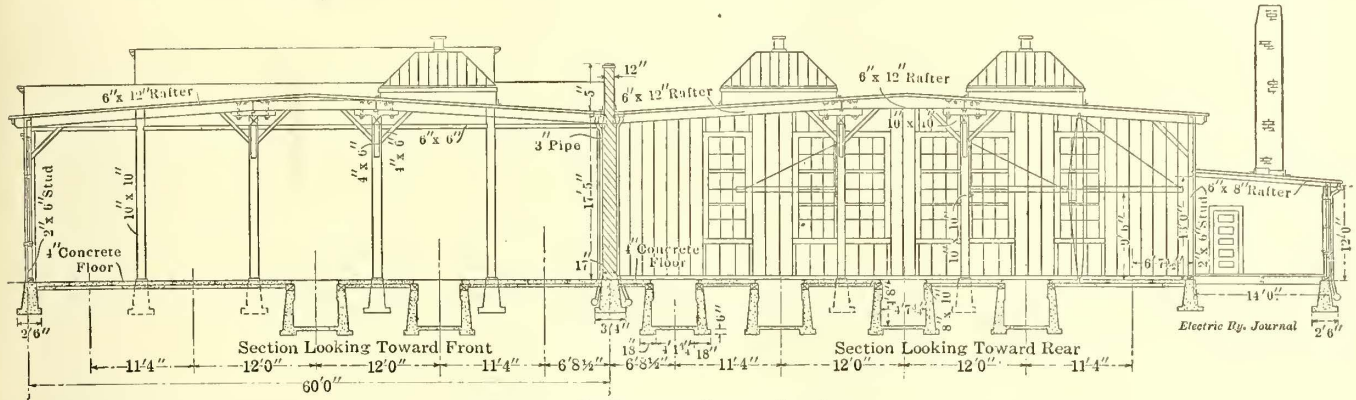
main rafters being 6 in. by 12 in. and spaced 7 ft. apart on centers. The sills and studding are of spruce. The floors of the machine shop, sand and salt rooms, lobby, office and lavatory are also of spruce. Two fire doors in the concrete division wall afford the only means of communication between the two sections of the house. They are located about 47 ft. from each of the end walls. The end doors are hinged to open outward. All the rooms in the lean-to section are 14 ft. wide, the lengths being as follows: Office, 14 ft.; lobby, 60 ft.; lavatories for trainmen and carhouse employees, 8 ft. each; saltroom, 14 ft.; sandroom, 25 ft.; sand drier and boiler room, 24 ft.; machine shop, 78 ft. 4 in.; stockroom, 63 ft. 4 in.

The carhouse is lighted by twenty-seven wired-glass skylights set in three rows, and by windows in the outer wall of the west section of the building, which is used almost entirely for car storage and washing. The skylights are spaced 28 ft. apart on centers, and are 7 ft. x 14 ft. Below the floor level a pipe conduit and subway extends across the building to a point about in the center of the storage division. The conduit is 1 ft. high and 2 ft. wide west of the



partition wall, and the subway is 4 ft. wide on the east side of the building. Heating and sprinkler pipe mains are carried in this conduit, and distributing pipes are taken off at the proper points. Inspection and light repairs are made in the east section of the house. Four of the pits are 254 ft. long and the other two pits 216 ft. long. One car-washing track is 92 ft. long and two others are 46 ft. long each.

of posts. The sprinklers along the row of posts are installed with the heads 36 in. out from the rail and at a height of 8 ft. 6 in. above the floor. In general the heads are spaced 8 ft. apart on centers, but the double lines of sprinklers along the rows of posts are installed with the heads staggered, so that each car is protected by sprinkler heads 4 ft. apart, the second row being only 30 in. behind the first.

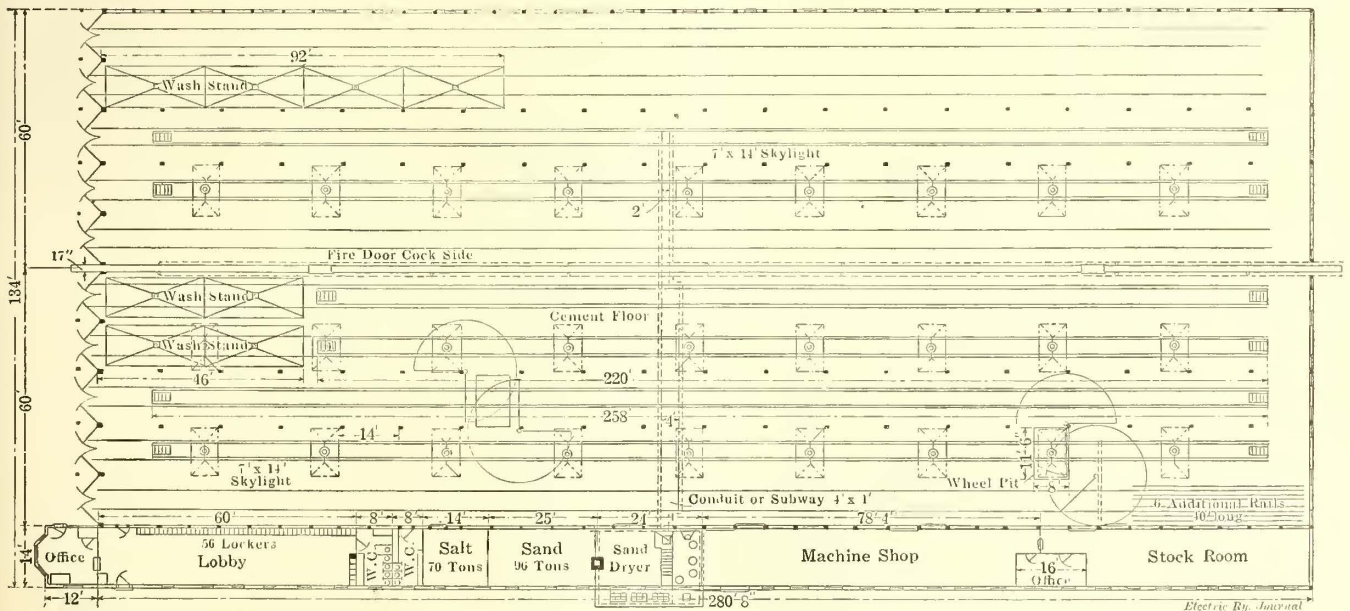


Brockton Carhouse—Cross Section

These tracks have sloping concrete floors draining into a sewer connection.

The carhouse is fully equipped with an automatic sprinkler system installed by the Rockwood Sprinkler Company, of Boston, Mass. The water supply for the system is drawn from the city service by an 8-in. main connected to a 40,000-gal. wooden storage tank mounted on a steel tower 75 ft. high; the tank is also connected with a three-way hydrant in front of the house. Just outside the building the feed line from the tank branches into two 6-in. lines, each of which is carried into the building to a separate set of dry valves from which the sprinkler mains are run. There are 562 heads installed on the ceiling and 460 in the aisles. In addition to these heads in the carhouse there are 113 heads installed in the lean-to section of the building, making a total of 1135 heads. The carhouse and other rooms in the

There are eleven lines of aisle sprinklers in the carhouse proper, the maximum distance between any two lines being 20 ft. The aisle sprinklers are supplied from the dry valve chambers by 5-in. mains which branch into smaller subdivisions as the distance from the dry valves increases, the minimum size of pipe being 1 in. The aisle sprinklers are subdivided into groups of fifty-four heads each, four dry valves supplying each half of the house. Cross-connecting lines between adjacent parallel rows of heads are 2 in. in diameter. Wherever the sprinkler lines cross the trolley wire in the house above the trolley trough the pipes are insulated with a wooden trough extending 18 in. on each side of the trolley wire. This arrangement prevents short-circuiting in case a trolley comes in contact with the sprinkler pipes, and avoids a frequent source of trouble where cars are equipped with two trolleys, one of which



Brockton Carhouse—Plan Showing Wheel Pit Cranes

building are also well equipped with hose, chemical fire extinguishers and sand pails.

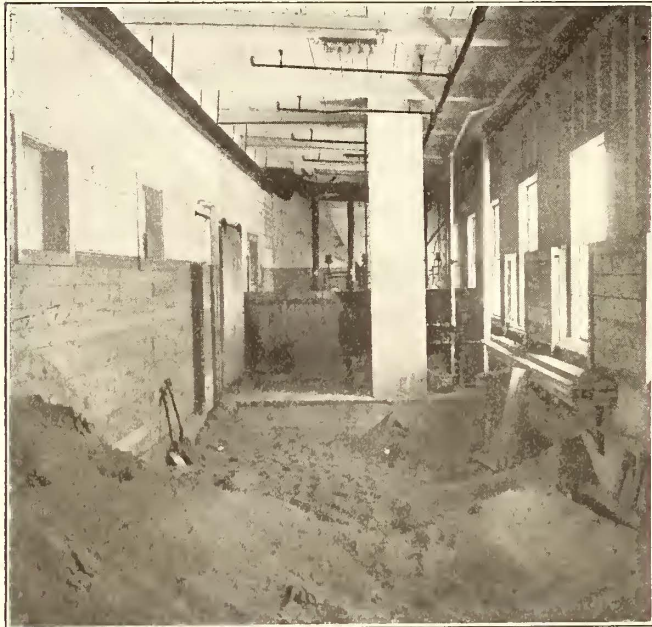
On account of the difficulty of repairing cars when sprinkler heads are installed in every aisle a compromise system was adopted. The aisle sprinklers are arranged to protect the cars only on one side, the sprinkler lines being installed along the wall with a double line along each row

may be on the wire when the other is permitted accidentally to fly upward and come into contact with the grounded sprinkler piping. The ceiling sprinkler heads are installed in rows 5 ft. apart, the heads being spaced 10 ft. apart. They are served by 5-in. and 6-in. mains leading from the dry valves in each section of the house, and the smallest sprinkler line reached has a diameter of 3/4 in. The

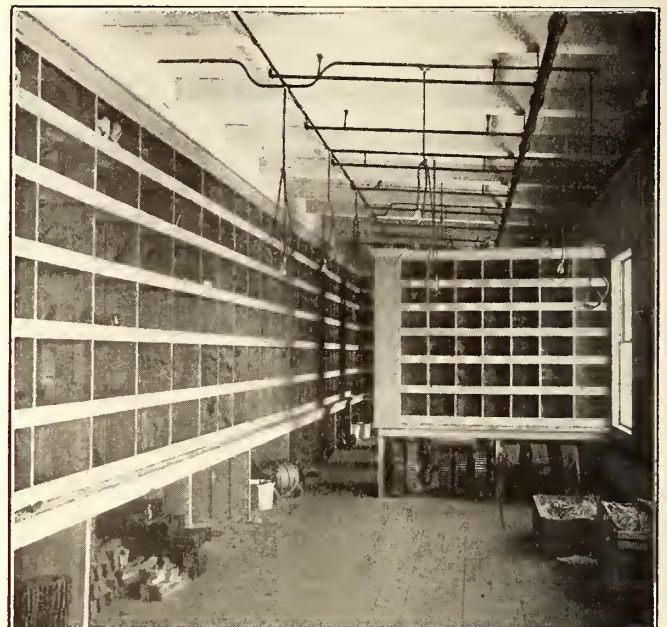


dry valves each control from 124 to 187 heads. The office and machine shop section of the building is protected by ceiling sprinkler heads covering about 40 sq. ft. each. The height of the ceiling sprinkler heads above the track level in the carhouse section varies from 17 ft. to 18 ft. 6 in. Heads are installed in each skylight at a height of 24 ft.

being brought into the room to terminals to which lamps may readily be attached. Sheet-iron troughs are installed in the lamproom to prevent the escape of oil drained from wick lanterns. The blacksmith shop is equipped with a power blower forge. The roof of the auxiliary building is of concrete, reinforced with old rails. Cast-iron columns



Brockton Carhouse—Sand Bin and Drier



Brockton Carhouse—Storeroom

above the rail, the head being in each case located at the hottest point in the skylight, which is in one of the upper corners.

A blacksmith shop, oil house and lamp-cleaning room are provided in a separate concrete building, 72 ft. x 20 ft., located 20 ft. east of the lean-to, and near the front of the

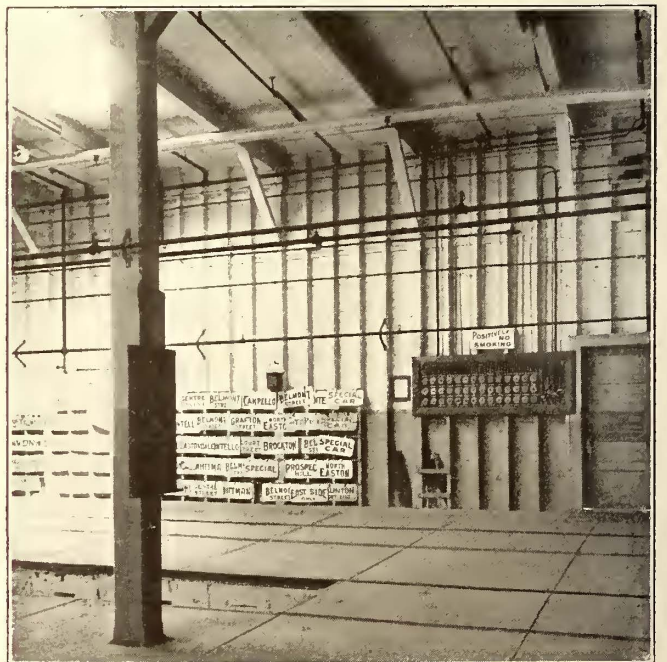
6 in. in diameter support the roof and the three rooms are separated by concrete division walls 6 in. thick.

The height of these rooms varies from 10 ft. to 10 ft. 7 in. The foundations of the building are of concrete, about 3 ft. in depth.

The Brockton, Woburn, Revere and Reading carhouses



Brockton Carhouse—Machine Shop



Brockton Carhouse—Switchboard for Lighting Circuits

carhouse. The oilroom has a 4-in. concrete floor depressed 18 in. below the ground level, so that in case oil escapes from the barrels it cannot flow into the lean-to and carhouse. Oil barrels are stored in this room on two tracks built of worn-out rails spiked to timber bases. In the lamproom provision is made for testing arc headlights, a special circuit

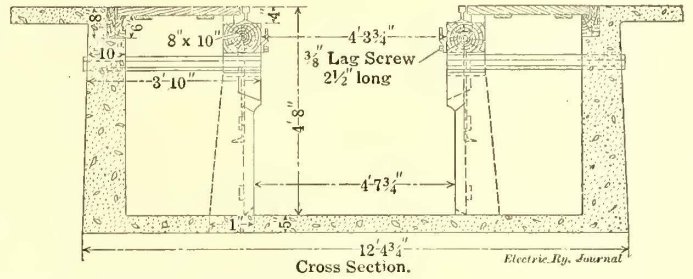
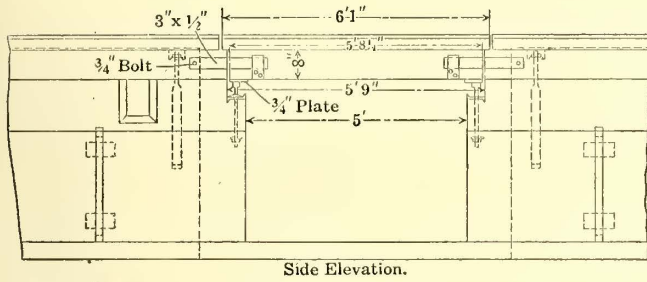
comply with the underwriters' requirements in substantially every particular. From the insurance point of view the use of sprinkler heads in every aisle would have been desirable, but the insurance engineers recognized that the operation of the carhouses would be hampered if every aisle were equipped. The construction of these four houses is such as



to give the railway companies the benefit of a substantial reduction in insurance premiums.

Two wheel pits, 8 ft. x 11 ft. 6 in., are provided at Brockton for the convenient removal of wheels. These are served by jib cranes of 12-ft. radius, air pit lifts and 15-ton hydraulic telescoping jacks. The jacks are portable and a car

life of the lamps in the machine-shop section was shortened by their proximity to an overhead belt carrying a considerable static charge which tended to bring the filaments into contact with the glass bulbs. The difficulty was overcome by the expedient of installing a miniature lightning rod or ground wire with a pointed end near the belt and connecting



Brockton Carhouse—Details of Wheel Changing Pits

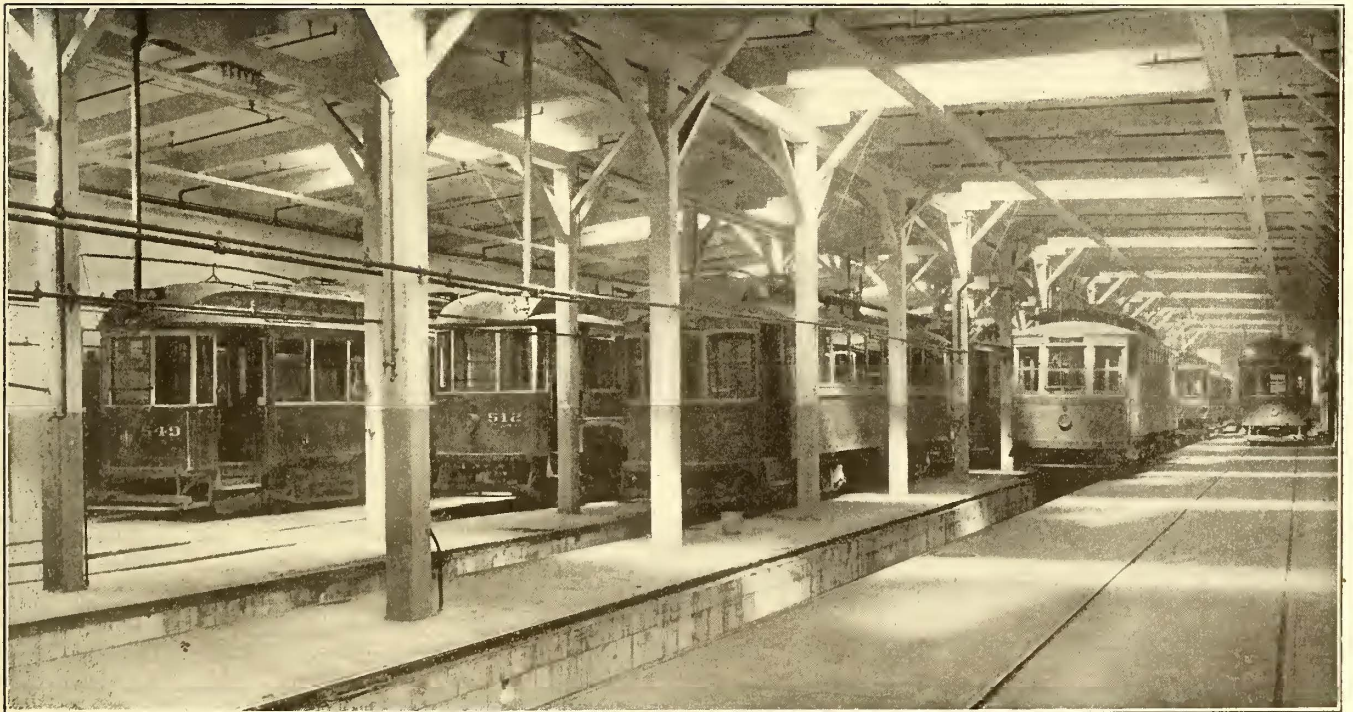
body can be lifted to the full length in any part of the house without the aid of blocking.

All the wiring in the building is installed in conduit with "Condulet" outlets. The lighting and power service is supplied from the trolley circuit and is controlled from a switchboard installed inside of the house near the front entrance. The switchboard consists of a slate panel bordered by a wooden frame of neat design, the panel carrying forty-two snap switches and inclosed fuses, a main single-pole knife switch and fuse and a motor switch and fuse. Each circuit switch is labeled. The electric lighting was designed to give a liberal degree of illumination without waste of current and lamps. The lights in each half of each pit are controlled on either side by a switch at the end of the pit. The switches and pit lights are installed in concrete pockets in the sides of the pits, the reflection of the white interiors helping materially in the illumination. The walls at the

other end of the bare wire to the piping of the sprinkler system, thereby providing a continuous path for the removal of the charge which previously accumulated on the belt.

The machine shop and stockroom are separated by an office for the repair foreman and for the recording of supply parts issued. As only light repairs are carried on in the four carhouses recently built, the tools are not elaborate or numerous. The Brockton shop is equipped with a 20-in. x 12-in. engine lathe, a 1 1/2-in. emery grinder, one grindstone, a pinion puller, an air compressor of 50 cu. ft. per minute capacity, which supplies compressed air for the hoists, wheel-pit tables and cleaning, an auxiliary air compressor for the sprinkler system and a "WP" railway motor used for driving the machine tools. Two storage tanks each of 24 cu. ft. capacity are used in connection with the air compressor.

The stockroom is arranged with tiers of bins designed to



Brockton Carhouse—Interior View in Storage Bay

sides and ends of the carhouse are also illuminated with single lights installed about 10 ft. apart, with plugs and extension cords. The overhead lights are arranged in clusters of five lamps each, installed in a wooden trough, 12 in. x 8 in., lined with "transite" and painted white on the inside to increase the reflection of light. It was found that the

permit the storage of heavy parts on the floor and also the separation of new from second-hand repair parts. The bins now standardized embody a flexible feature which has been found useful in the Campello shops of the company. Each pair of bins is formed by a movable partition carried in a pair of closely fitting slotted wooden blocks, located one at



the top and the other at the bottom of the bin. Permanent partitions are installed at frequent intervals, but the use of the portable bin walls enables the size of each bin to be altered according to the size and quantity of material on hand and cuts down the amount of wasted space to the minimum. Waste boxes lined with sheet tin are provided; the boxes are arranged to be pulled out easily from beneath the workbenches, and the covers are arranged to open at the sides and be held in position by chains. Similar rag boxes are in use. The stockroom lights are provided with flexible drop cords and adjusters to facilitate working at different bin levels.

The heating system consists of open coils in the carhouse and pits, and radiators in the office, lobby and shops. A low-pressure boiler supplies the steam and its location beneath the sandroom and dry valves for the east half of the house has proved very satisfactory. A small coal pocket is located at the boiler room floor level, with provision for a gravity supply from wagons or cars above. In the trainmen's lobby fifty-six metal lockers are provided, one being allowed for each pair of men. The lockers are 18 in. x 12 in. in section by 72 in. high. Hot and cold water is provided in separate washrooms for the trainmen and carhouse employees. A ten-station watchman's clock system is installed throughout the building. The foreman's office contains a table of car-wiring data, first-aid equipment and a telephone connecting with the general offices. A safe for the reception of money collected on the cars is also placed in the office. It has a slotted opening in the top of sufficient size to receive money in bags.

The Woburn carhouse has a capacity of fifty cars, as has the Reading house, and the capacity of the Revere house is sixty cars. The Brooklyn house was built by day labor under the company's supervision. The sprinkler systems at Woburn and Revere were installed by the General Fire Extinguisher Company of Boston, Mass., that at Reading



Brockton Carhouse—Trainmen's Room

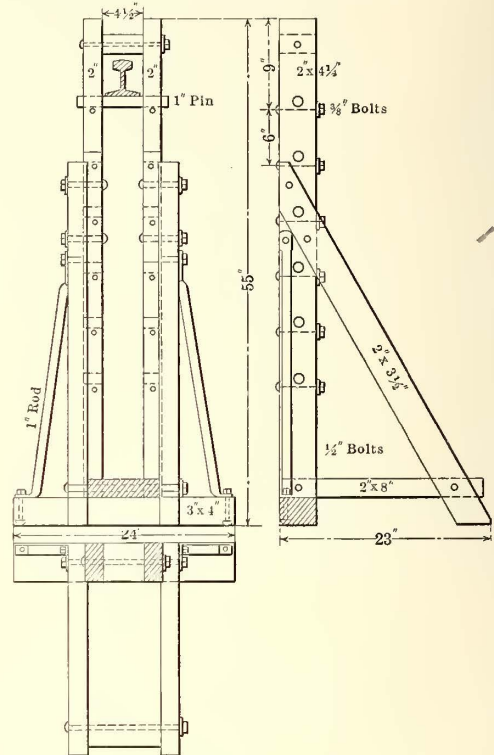
being furnished by the Rhode Island Supply & Engineering Company, Providence, R. I.

The designs of the four carhouses were made by the department of motive power and machinery—C. F. Bancroft, superintendent; E. W. Holst, superintendent of equipment, and G. F. Seibel, supervising architect.

Negotiations are under way to consolidate the tramway and electricity supply companies in Constantinople with a capitalization of \$12,500,000.

## CONVENIENT CAR HORSE USED IN DENVER

The accompanying illustration shows a home-made type of car horse used in the shops of the Denver City Tramway Company in place of the usual pair of barrels required to hold a car body in position in the absence of a truck. The horse is built of oak members, 2 in. x 4 1/4 in. in cross-section, the timbers being braced at the bottom of



*Electric Ry. Journal*

Plan and Elevations of Car Horse

the framing by two 2-in. x 3 1/2-in. pieces and tied together at intervals by 3/8-in. bolts. The horse is also braced at the bottom by 1-in. rods bent to an upset which is bolted respectively to the base and upright members. The small bolts tying the structure together are spaced 6 in. apart on centers. The horse is 55 in. high, and is provided with a 4 1/2-in. spacing block at the top. The two principal members are bored at six levels 6 in. apart on centers for the insertion of a 1-in. steel pin to carry the cross-rail which supports the car body end sill. The bottom of the horse can be set in a space 23 in. wide by 24 in. long and about 20 ft. of lumber are required in its construction. The cost of the horse complete, including labor and material, was less than \$3.

## HOME-MADE SNOW MELTER

An oil burner of special design has been built for melting ice and snow from the running gear of the cars of the Chicago, South Bend & Northern Indiana Railway. This burner is a product of the new South Bend shops of that company, where it is used. It is designed to throw a flame 5 ft. or 6 ft. in length along the pit beneath a car and thus quickly melt away the snow and ice adhering to the trucks. The burner and tank are mounted on a truck so that they may be wheeled from one pit to another. The oil supply tank consists of a cylindrical reservoir 40 in. long by 15 in. in diameter. This tank is equipped with attachments for receiving one hose connected with the shop air pressure and another leading to the burner, which is attached to the end of a 5-ft. length of iron pipe. The use of the oil burner with its large flame is said to reduce greatly the time required for making slight repairs to cars.



# Electric Railway Storeroom Accounting Methods

A Discussion of the General Principles of Storeroom Accounting and Stock Keeping and a Description of the New Storeroom and Record Forms of the Mobile Light & Railroad Company

BY M. W. GLOVER, SECRETARY AND AUDITOR MOBILE LIGHT & RAILROAD COMPANY

To be satisfactory an accounting system must be elastic. The purpose of a storeroom accounting system is to account properly for all material purchased and used; but the location of the storeroom, its relation to the departments served, and the ability and experience of the storekeeper, may necessitate certain changes in details to meet the local conditions. A theoretical system may be outlined which will

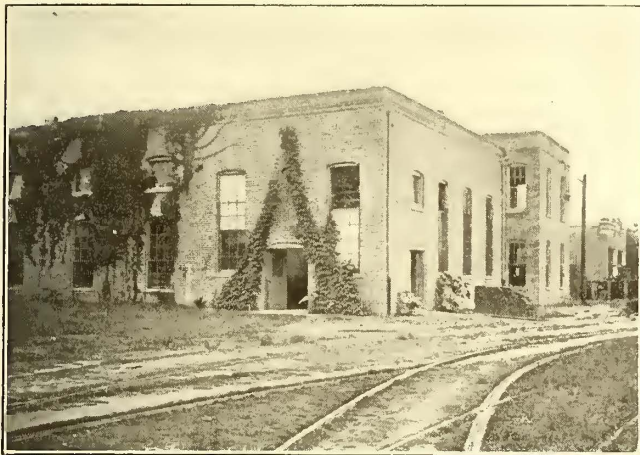
to be determined by conditions. In my opinion there is no objection to having the storekeeper know the price of each article in the storeroom, as in many cases he can use this information to determine the relative value of the same material furnished by different supply houses. Of course, the storekeeper's price list should not be subject to inspection by any other employees, and it is taken for granted that the storeroom records will be kept private and will not be open to inspection except by proper authority.

A storeroom without a storekeeper is a useless expense. The storekeeper should be under the jurisdiction of the purchasing department in all matters pertaining to the purchase and receipt of material, but should report to the accounting department in all matters relating to the issue of and the accounting for material.

No material should be issued except on a requisition properly approved, and all supplies issued and not used should be returned to the storeroom and the proper credit given. Before replenishing his supply of any material the storekeeper should consult the head of the department using this material to determine if any changes in the specifications will be made. Failure to do this sometimes causes the storeroom to become overstocked with obsolete material or material that has become useless on account of changes in standards adopted. The superintendent, roadmaster and master mechanic may fail to notify the storekeeper when a change is determined upon, but the storekeeper should consult them before ordering a new supply of material in order that this trouble may be avoided.

The losses through obsolete electrical material are enormous, as changes in standards are being made constantly in all departments, through the development of the science of electricity and through new inventions which are being placed on the market constantly.

A cheap storekeeper is not an economy to his company. A storekeeper should be familiar with the material and know its uses, but it is not necessary that he should be a



Mobile Storeroom—Exterior View

afford a perfect record, but, when put into practice, it may not prove satisfactory or it may be too expensive for the protection afforded. A practical test is always advisable before a decision is made upon a storeroom accounting system for any property.

All material should be bought by a purchasing agent, or someone familiar with the prices and quality of material, as it is not always the cheapest that is the most economical. To get bids on supplies and then close with the concern making the lowest bid, without going into the quality of

MOBILE LIGHT AND RAILROAD COMPANY. STOCK LEDGER															Bin No. _____			
RECORD OF MATERIAL RECEIVED AT AND DISBURSED FROM STOREROOM															Article _____			
															Size _____			
															Quality _____			
DATE OF INVOICE 191	DATE OF RECEIPT OF MATERIAL 191	ORDER NUMBER	PURCHASED FROM	QUANTITY	PRICE		NET AMOUNT INVOICE	Freight and Drayage	TOTAL COST DELIVERED IN STORE ROOM	PRICE IN STORE ROOM			BALANCE					
					Unit	Ducent				Cost	Unit	Rate	AMOUNT					
<b>DISBURSEMENTS</b>																		
REQUISITION DATE NUMBER		QUANTITY	Am't Cgd'd	PRICE Cost Unit	AMOUNT	REQUISITION Date Number		QUANTITY	Am't Cgd'd	PRICE Cost Unit	AMOUNT	REQUISITION Date Number		QUANTITY	Am't Cgd'd	PRICE Cost Unit	AMOUNT	

Mobile Storeroom—Page of Stock Ledger

the material to be furnished, is not good practice. Except on a very small property, a conscientious and capable purchasing agent will save his company many times the cost of his services.

When material is ordered, a copy of the order should be furnished the storekeeper to enable him to check the material properly when it is received. Whether or not the storekeeper should be furnished with the prices is a question

skilled mechanic. On the other hand, he should not be simply a bookkeeper, or he might be unable to suggest uses for certain material, and as a result a lot of dead material will accumulate, much of which might be used for some purpose if brought to the attention of the proper parties. When obsolete material accumulates it should be sold, as very little material improves with age.

In my opinion an association of purchasing agents, or











condition for service, causes delay on the street or requires it to be taken out of service. This report is made out on Fig. 1 (Form 6092). It is handed to the station master or starter in charge as the car is brought in.

The information on the defect slip is then entered on Fig. 2 (Form 6009), which is in duplicate, green and white, and the slip itself is delivered to the pit foreman together with the defective car. The pit foreman enters the defect on his log, Fig. 3 (Form 6128), in duplicate and later completes the history by adding what trouble was actually found, who made the repairs, how much time they required, etc.

All defective cars which are reported during the day to the division headquarters by starters, inspectors, etc., are entered on Fig. 4 (Form 3422A), a green card 6 in. x 12 in. If the delay was three minutes or more it is telephoned to the superintendent of the day, who is located at the general offices of the company, and he in turn enters it on Fig. 5 (Form 3400), a green card 6 in. x 12 in. in size.

The foregoing statement gives the daily routine of report-

essary, the superintendent of the day abstracts by marking onto total defect cards, of which there is one a month for each carhouse. On the reverse side of these cards he enters the duration of the delay in minutes against each defect. The superintendent of transportation's monthly statement of car troubles, showing every individual defect by carhouses, is tabulated from these cards. The starter's summary, Fig. 2, is then forwarded to the superintendent of rolling stock and shops for reference purposes.

It is an interesting fact that after passing through so many hands the difference between the two sets of monthly summaries for April, 1911, was just 1 per cent, which is inappreciable. It will be observed that the above system accomplishes the desired end, accurate and truthful reports. It supplies the following day complete information to the division office, the superintendent of transportation and the superintendent of rolling stock and shops of the performance of the equipment the day before.

During the month of April, 1911, there were 3227 de-

Weather		A. M.	Car House		DAILY REPORT			for 24 hours from 7 A. M.		191	Weather	P. M.
CAR NO.	TIME IN	TROUBLE REPORTED		TROUBLE FOUND	REPAIRED BY	Time Repairs Completed	CARS FOR INSPECTION			REMARKS		
<small>This slip must be signed by each Foreman during his period of duty, original filed in the Car House and Carbon Copy forwarded to Office Supt. Rolling Stock and Shops.</small>												
Signed,			Night Foreman			Signed,			Foreman			

Fig. 3—Car Defect Records—Carhouse Foreman's Log

DEFECTIVE CARS AND DERAILMENTS										Div.
S. A. M.	191 to S. A. M. Following Day									
Time Occurring	LOCATION	Car	Carhouse	Conductor Motorman	Delay	CAUSE	DETAILS	Action Taken		

Fig. 4—Car Defect Records—Division Record of Car Delays

Surface Cars Reported Defective, Causing Delay or Accident and Derailments								S. of Day
5 a. m. to 5 a. m. following day.								S. of Day
Time of Delay	Time Reported	Car No.	Car House	Location of Delay or Accident	Min. Del.	Reported Cause	REMARKS: Lines Affected or Diverted	

Fig. 5.—Car Defect Records—Log of Superintendent of the Day

ing prior to any checking. It will be seen that there is a running account at each division office and at the general office right through the day, and upon the occasion of a serious defect the superintendent of the day can immediately notify the superintendent of rolling stock and shops so that the latter may investigate at the earliest moment.

The original defect slip, Fig. 1, both the original and the duplicate of the starter's summary, Fig. 2, and the duplicate of the foreman's log, Fig. 3, are sent each day to the division office. Here they are carefully checked, together with the telephone report card, Fig. 5. All errors or omissions in any one of them are corrected and the attention of the party responsible is called to the same.

Thereupon the duplicate of the foreman's log, Fig. 3, is forwarded direct to the superintendent of rolling stock and shops. From these logs are tabulated the monthly statements of car troubles which are taken up at the monthly meetings of the carhouse foremen.

At the same time the original of the starter's summary (Fig. 2) is forwarded to the superintendent of the day, who is located in the office of the superintendent of transportation. As there are twenty-five carhouses, he receives as many sheets. After checking these reports with the telephone report card (Fig. 5), which he completes where nec-

fects, ranging from a disordered window curtain causing no delay to a dropped gear case which caused cars to be diverted for a considerable period. The list follows:

	Number of Defects.	Percentage of Total Defects.
Car body.....	1,440	44.6
Motors .....	670	17.6
Control .....	390	12.0
Trucks .....	156	4.8
Brakes .....	231	4.1
Trouble reported; nothing found.....	340	10.5
Total .....	3,227	
Mileage operated, 3,695,262.		
Reported ratio of defects per 1000 miles, 0.87, or one defect for every 1145 miles operated. Actual ratio of defects per 1000 miles (trouble reported, but nothing found on shop inspection), 0.78, or one defect for every 1279 miles operated.		

This compares most favorably with the reports of results obtained on other large properties. It indicates what reliable street car service is offered in Boston, where the conditions of street railway operation are most arduous. There is probably no city of equal size which has so many different grades, short-radius curves and narrow streets as Boston, and the strain on the equipment is correspondingly severe.

These figures are also a compliment to the thorough, highly efficient maintenance organization of the company, which in the past few years has made a remarkable reduction in the number of street car defects.



## CENSUS REPORT ON MANUFACTURE OF ELECTRICAL MACHINERY

A preliminary statement showing the general results of the Thirteenth Census of establishments engaged in 1909 in the manufacture of electrical machinery and apparatus was issued Sept. 5 by Census Director E. Dana Durand. The report was prepared under the direction of William M. Steuart, chief statistician for manufacturers. The reports were taken for the calendar year ended Dec. 31, 1909, whenever the system of bookkeeping permitted figures for that period to be secured, but in some instances they relate to the business year falling most largely within 1909.

The value of the machinery and apparatus manufactured for use in the generation and utilization of electricity increased from \$105,832,000 in 1899 to \$159,551,000 in 1904 and \$243,967,000 in 1909, or 130 per cent during the decade.

### GENERATORS, TRANSFORMERS, ETC.

Dynamos, motor-generators and similar machines constitute the most important generic group of electrical machinery. The number of dynamos manufactured annually increased from 10,527 in 1899 to 15,080 in 1904 and 16,791 in 1909, an increase of 59 per cent for the decade. The value of the dynamos for each year was \$10,473,000, \$11,084,000 and \$13,081,000, respectively. The average capacity per machine increased from 55 kw in 1899 to 66 kw in 1904 and 84 kw in 1909. The value of the dynamotors, motor-generators, boosters, rotary converters and double-current generators manufactured increased from \$380,000 in 1899 to \$3,155,000 in 1909, or 730 per cent.

The value of transformers manufactured increased from \$2,963,000 in 1899 to \$4,469,000 in 1904, or 51 per cent, and to \$8,801,000 in 1909, or 197 per cent. The value of the switchboards, panelboards and cut-out cabinets for light and power increased from \$1,847,000 in 1899 to \$3,766,000 in 1904, or 104 per cent, and to \$5,972,000 in 1909, or 223 per cent.

### MOTORS

The total value of motors of all kinds, including supplies and parts, manufactured increased from \$19,505,000 in 1899 to \$22,371,000 in 1904 and \$32,087,000 in 1909, or 64 per cent for the decade.

The number of power motors manufactured annually increased from 35,604, valued at \$7,551,000, in 1899 to 79,877, valued at \$13,121,000, in 1904, and to 244,123, valued at \$18,306,000, in 1909, there being an increase of 586 per cent in number and 142 per cent in value for the decade. Many powerful motors were manufactured, but the number of small motors has increased so rapidly that the average capacity per machine has declined, the average horsepower per motor for the three census years being 14.5, 8.5 and 6.7 respectively.

In 1899 there was great activity in the manufacture of motors for automobiles, but the increase in this branch of industry has not kept pace with that for other classes of electrical equipment. The number manufactured decreased from 3017 in 1899 to 1819 in 1904, with an increase to 2,796 in 1909. On the other hand, the capacity of motors reported increased 4251 hp, or 52 per cent, during the decade. The number of fan motors increased from 97,577 in 1899 to 102,535 in 1904, and 199,113 in 1909. The value of these motors increased from \$1,055,000 in 1899 to \$2,451,000 in 1909, or 132 per cent.

Unfortunately the statistics of motors for electric railroad cars are not separated. The report says that this cannot be done without disclosing the products of individual establishments, but there was a good increase in the manufacture of such motors as compared with the production of 1904, which was 12,298, of 713,181 hp, valued at \$4,950,000. Considering the group of motors for cars, elevators and similar purposes, the combined number de-

creased from 23,582 in 1899 to 22,112 in 1904, and increased to 38,698 in 1909. The value of these motors was \$10,707,000 in 1899, \$7,929,000 in 1904, and \$11,036,000 in 1909, there being an increase of 149 per cent in number and 3 per cent in value during the decade. The decrease shown for the group in 1904 was entirely due to the decrease in the manufacture of railway motors at the time of taking that census.

### BATTERIES

The value of the storage and primary batteries manufactured increased from \$3,679,000 in 1899 to \$4,244,000 in 1904 and \$10,612,000 in 1909, or 188 per cent during the decade.

### ARC AND INCANDESCENT LAMPS

The number of arc lamps manufactured increased from 158,187 in 1899 to 195,157 in 1904, and decreased to 123,543 in 1909. The decrease is accounted for by the fact that other varieties of lamps are now used for street light and for other purposes for which arc lamps were formerly used almost exclusively. The total value of the incandescent lamps manufactured increased from \$3,515,000 in 1899 to \$6,953,000 in 1904 and \$15,715,000 in 1909. The value of the carbon-filament lamps increased rapidly from 1899 to 1904, but there was a slight decrease in 1909, the value for the respective years being \$3,442,000, \$6,308,000 and \$6,157,000. The manufacture of gem, tantalum, tungsten and other metal-filament lamps was reported separately for the first time in the census of 1909, when they were valued at \$7,682,000.

## IMPROVEMENTS OF DES MOINES CITY RAILWAY

The Des Moines (Ia.) City Railway is spending about \$150,000 on renewal of tracks, including labor, to give the company more turnouts and more double track. All of the material has been purchased and most of it is on the ground, but some of the labor remains to be done to complete the work. The company is also building an extension to its power station to accommodate a new turbine purchased recently and is building another addition to its power station to accommodate new transformers purchased recently. A second story is being built to the company's Twenty-fourth Street carhouse, where a room is being provided for the motormen and conductors. The size of this addition is 30 ft. x 28 ft. Contracts have been let for all of this work. The company has purchased one 300-kw Westinghouse rotary, one 500-kw General Electric rotary and three 750-kw General Electric transformers. The necessary switchboards are to be ordered. Bids have been asked for coal-handling apparatus and a traveling crane for the company's power station, and for a new intake with a well with concrete walls. Twenty 40-ft. cars purchased from the American Car Company, St. Louis, Mo., have been placed in operation. They are of the double-end pay-as-you-enter type with cross-seats in the middle of the car and longitudinal seats at the end, and are equipped with maximum traction trucks and two GE-98 motors, Peter Smith hot-air heaters, Root scrapers, Crouse-Hinds headlights, Consolidated fenders, National Brake & Electric Company air equipment, Peacock brakes and International double registers. The company has also purchased from the Peter Smith Heater Company fifty-four additional hot-air heaters to be installed in all the old types of cars which are in use.

F. E. Drake, formerly manager of the French and Italian Westinghouse Companies and now engaged as consulting and contracting engineer, is building a new system of tramways in Palermo, Italy, for a Belgian syndicate of capitalists. This syndicate is also contemplating the construction of a tramway system in Catania and the reconstruction of the tramways in Messina.



# Report on Transit Conditions in Syracuse, N. Y.

An Abstract of a Comprehensive Report on the Street Railway Traffic Conditions in Syracuse Which Was Made to the Public Service Commission of New York, Second District, and Was Used as the Basis of a Formal Order by the Commission to Make Certain Changes and Improvements on the Property.

A report of C. R. Barnes, electric railroad inspector of the New York Public Service Commission, Second District, on transit conditions in Syracuse was made the basis of certain recommendations by the commission concerning service and equipment.

Mr. Barnes showed that gross income of the Syracuse Rapid Transit Railway from all sources had increased from \$621,299 in 1901 to \$1,477,121 in 1910. Operating expenses in the same period rose from \$340,830 to \$1,069,793. The capital stock was \$3,920,031 in 1901 and \$3,918,072 in 1910. The funded debt was \$3,823,000 in 1901 and \$3,910,000 in 1910. Other indebtedness amounted to \$75,963 in 1901 and to \$1,925,040 in 1910. The population of the district served, excepting two small villages, increased from 117,380 in 1901 to 147,051 in 1910. The number of passengers carried, including transfers, was 15,433,650 in 1901 and 35,243,398 in 1910. Total miles of track increased from 62.04 in 1901 to 82.23 in 1910. Passenger car miles rose from 3,409,411 in 1901 to 5,549,710 in 1910. Where there were seventy single-truck cars and seven double-truck cars for winter operation in 1901, there were in 1910 fifty-seven single-truck and 102 double-truck cars. On Jan. 25, 1911, there were in the shop 10.8 per cent of the double-truck cars and 3.5 per cent of the single-truck cars. On March 1, 1911, 513 conductors and motormen were employed, of whom 100 were on the extra list. Mr. Barnes says that the methods of examination of applicants for the positions of motormen and conductors and their instructions are very complete and should result in an efficient and reliable class of men being employed. In addition to the instructions given applicants, the superintendent calls a portion of the men together at different times and discusses various matters; this tends to increase the discipline and results in more efficient service.

The operating force actually engaged in car movement consists of a general manager and one superintendent, a general foreman, one chief inspector, six inspectors, two traveling instructors. Each inspector has charge of a division, and during the rush hours is located at points of maximum travel. March 1, 1911, 513 motormen and conductors were employed, about 100 of whom were on the extra list.

One man is employed continuously in watching the traffic and making counts of passengers to determine sufficiency of service.

The usual means of protecting grade crossings of steam and electric tracks are described and Mr. Barnes states that all the crossings in Syracuse except steam switch track crossings are protected by one of these methods. At some of the crossings the protection employed is not considered sufficient and negotiations are pending to increase safety of operation at these points. An examination of cars was made and the results were tabulated with reference to general conditions of the car, the cleanliness of the floor, the general appearance of the outside of the car, including condition of paint and varnish; the condition of interior woodwork, including cleanliness, paint and varnish; the cleanliness of windows; the condition of the seats as regards repair and cleanliness. A detailed inspection of the new pay-as-you-enter cars belonging to the company was considered unnecessary.

In August, 1909, an inspection of the track and roadbed was made and for the purpose of the present report the

data obtained then were supplemented by a statement of subsequent improvements.

When rails are worn at the joints the company has adopted experimentally the plan of cutting off the worn portions and laying a short section; 437 joints have been treated in this manner. It is expected that this will prolong the life of the rail from three to four years. From July 1, 1900, to June 30, 1910, the company expended for extensions of track, purchase of private right-of-way and pavement, exclusive of the cost of ordinary track maintenance, a total of \$1,024,979. For extensions and construction of overhead system in the same period the company expended \$153,642. Mr. Barnes states that the company has made liberal additions to its car equipment during the ten years, involving a total expenditure of \$446,826. Notwithstanding that there is at present a shortage of power, the company has spent for equipment in the ten years \$101,794 and for improvements to the power house \$29,451, a total of \$131,245.

Counts of the passengers in each car run on the different lines during different hours at the points of the usual maximum load were made by the company at the request of Mr. Barnes and were practically confirmed by subsequent counts which Mr. Barnes had his assistant make.

The percentages of increase in the principal items mentioned in the foregoing summary for the ten years ended June 30, 1910, are as follows:

	Per Cent.
Population .....	27.1
Passengers carried .....	128.4
Car miles operated.....	62.8
Miles of track .....	40.4
Cars owned .....	127
Seating capacity .....	172
Gross income .....	137.7
Operating expenses .....	210
Additional deductions from income.....	69.4

## CONCLUSIONS

The conclusions drawn by Mr. Barnes are, in brief, as follows:

"An examination of the traffic sheets shows that on several of the lines during the rush hours the number of passengers in some of the cars was sufficient to cause serious inconvenience. In some such cases in the next car following on regular schedule all the seats were not occupied, and if the traffic during a certain period had been equally divided between all the cars run very little inconvenience caused by overloading would result, except during the peak of the rush hours.

Mr. Barnes then recommends certain track construction. Taking up the subject of power, he says:

"Shortage of power during the evening rush hours to operate and light properly the present number of cars run, especially on the outlying lines, is so apparent that no detailed investigation was necessary to establish that fact, and power conditions are such that no material additions to the service can be made until additional power is available.

"The company, realizing the above fact, has caused an investigation of its power conditions to be made by electrical engineers who have made a very thorough and exhaustive report on this subject. In this report the inadequacy of present transformer station capacity and lack of proper feeder system is set forth and plans are presented to relieve the above defects and to provide for a sufficient and reliable power supply which will also effect economies in use



of power. These plans include the erection and equipment of two additional transformer stations centrally located, and a rearrangement of and additions to the present feeder system. The report also includes estimates of costs for the proposed improvements in power system."

## CARS

In regard to class of cars operated the report says:

"As shown in previous statements in this report, the company has been liberal in the number of cars added to its equipment during the past ten years. In 1900 the company was not operating a double-truck car; at present it has 102 such cars in service, including twenty-three modern pay-as-you-enter cars which have recently been added. In 1900 there were seventy single-truck cars in operation; at present the company has fifty-seven such cars, having retired from service thirteen of this class. From these statements it will be seen that the company has adopted as a standard the large double-truck car, and during the past ten years has added no other class of car to its equipment. This policy of the company is a proper one and in keeping with the street car requirements of a prosperous and growing city such as Syracuse.

"While a greater portion of the cars operated on this system are in proper condition for the comfortable and convenient transportation of passengers, a large number of them, especially the single-truck cars, have been allowed to deteriorate to such an extent that they detract from the general appearance of the residential and business streets through which they run and are not at present a proper car for the convenient and comfortable transportation of passengers. This is especially true of the side-aisle, cross-seat cars, of which the company at present has twenty-five. The general appearance of the cars is largely due to the fact that prior to Jan. 1, 1910, this company had no repair shop facilities. It now has available a modern repair shop the equipment of which is unequaled by any in the country, and includes all of the facilities necessary for the proper upkeep of the equipment.

"The schedule of shop work to be done, adopted by the company, does not include the building of any new cars.

"The company anticipates utilizing the additional facilities afforded by the new repair shop, and has arranged a schedule of car repairs under which a sufficient number of cars will be put through the different shops each month to result in the equipment being in proper condition as soon as it is possible so to do with the present limited number of cars owned. The schedule of car repairs includes the rebuilding of the side aisle, cross-seat, single-truck cars, six of which have been rebuilt, and nine more will be completed by December of this year, the others to be rebuilt during 1912 and 1913.

"The company has in a reasonable measure in the past kept pace in the transportation facilities furnished with the increase in travel, and there is no reason to doubt its intentions to continue that policy in the future.

"Notwithstanding the liberal expenditures made by the company in recent years for new cars of modern type, it has at present in operation too large a proportion of small, single-truck cars to accommodate properly the traffic on the different lines on which they are run.

"The policy of this and other companies operating in cities of the size of Syracuse has been to withdraw, as far as financial resources would permit, this class of car from regular service on important lines, replacing them with double-truck cars of greater seating capacity.

"The fifty-seven single-truck cars at present owned by this company represent a considerable investment, and the company should not be requested entirely to discontinue their use.

"To provide properly for present schedule requirements the company should have six additional double-truck cars.

"The company has proper facilities and employs sufficient force to keep its cars in a clean and sanitary condition.

The statement of the inspection of cars shows that while a large number of them were in first-class condition none is classed as in very poor condition. The general condition of cars in this respect is such that no definite recommendations for improvements in this direction are warranted."

## OPERATION

Regarding methods of operation Mr. Barnes says:

"The operating department is in charge of competent and efficient officials. The general manager and superintendent employ methods which result in a thorough knowledge on their part of the smallest detail of operation, to an unusual extent. The discipline of employees maintained on this road is first class. During the investigation it was noted that conductors were courteous and obliging to passengers. Their uniform action in this respect, compared with conductors on some of the other roads in this State, is a subject of favorable comment. The efficiency of the motormen employed is reflected in the comparatively small number of collisions occurring on this system, showing that these men are competent and are interested in their work. Both of the above conditions are in a large degree attributable to the frequent conferences held and discussions of operating conditions by the superintendent and the men.

"The company has made in the past, and is making at present, reasonable expenditures for track maintenance. The method described of treating rails worn at the joints, which otherwise must have been replaced, has reduced the track maintenance cost in this particular; but if the expectations of the engineers of the company are realized these rails must be replaced at the end of the period of the anticipated life of the reconstructed joint, at which time maintenance cost will be greatly increased and for which provision should be made.

"The overhead structures, including poles, feeders and trolley wire, are generally in fair condition. The company has a sufficient number of emergency wagons and employs a sufficient force to maintain properly the overhead structure.

## GRADE CROSSINGS

There are more grade crossings of steam tracks, in proportion to the size of cities, in the city of Syracuse than in any other in this Public Service district. This results in serious inconvenience to the people of Syracuse and vicinity and financial loss to the company. It is unfortunate that this condition cannot at present be entirely overcome. It can, however, be materially relieved by the enforcement of proper ordinances prohibiting trains from standing in a manner to block crossings longer than a limited time, and to prohibit ordinary switching being done during rush hours on tracks across streets through which the important lines of street cars are run.

"One of the most vexatious causes of delays is the operation of swing or lift bridges over canals. Since the gas engine has been applied to the propulsion of pleasure boats the use of this class of boats on the canals has been greatly increased. Aggravating delays to street car travel occur frequently in Rochester and Syracuse, caused by a small pleasure boat occupied possibly by one or two boys, for which a canal bridge is operated, stopping a line of street cars and delaying in some cases a thousand people from three to eight minutes.

"The above conditions during rush hours are unreasonable, and relief from them should be furnished. With this object in view a conference of the operating officials, the superintendent of public works and the Public Service Commission, Second District, has been suggested to devise, if possible, some means of relief."

It is recommended that a wrecking wagon be located near the business center.

Estimated expenditures which are recommended aggregate \$158,090 for power system, \$204,000 for thirty-four new double-truck cars at \$6,000 each, \$546,735 for exten-



sions and double track, and \$29,984 for construction of new double track to effect a change of route, making a total of \$938,809. Provision should be made for the completion of the improvements within five years.

In a letter written in acknowledgment of the letter, C. Loomis Allen, vice-president and general manager of the company, indicated his general acceptance of the recommendations and purpose of compliance, except that as to certain future expenditures assurance was given that in the preparation of the annual budget each year full consideration would be given to the matter. Mr. Allen gave the details of the expenditures authorized for 1911, including those recommended for this year, involving a total of \$390,298.

The recommendations of Mr. Barnes were embodied in a formal order passed by the commission.

**ILLINOIS TRACTION MERIT SYSTEM**

On May 15, 1911, the operating department of the Illinois Traction System put into effect on the interurban lines a system of discipline based on a new schedule of merits and demerits. The system was instituted by C. F. Handshy, general superintendent of interurban lines. The following paragraphs from the bulletin issued to the trainmen describe the new merit system.

"Under this system the practice of suspending trainmen for violation of rules, etc., will be discontinued, and in place a certain number of marks (see list of merits and demerits) will be entered against their record, the object being to avoid a loss of wages by persons employed and the possible result, suffering of those dependent upon their earnings.

"When demerits are given for unsatisfactory service it is logical that merits should be given for good service, and to stimulate and encourage employees in the faithful and intelligent performance of their duty merit marks will be credited on their records whenever possible, and in this way let merits cancel demerits. All applications for merits must be filed within five days after the occurrence.

"The board will meet bi-monthly to investigate, produce evidence and pass judgment on all violations of the rules and on meritorious acts performed. The minutes of the board will be kept as part of the records of the merit system.

"Whenever merit and demerit marks are given a notice will be posted stating how many marks have been given and on what charge, but omitting name, train and car number.

"When an employee's demerits have reached the number of ninety he shall be called in by the superintendent, duly cautioned and advised that when his demerits amount to 100 he will be dismissed from the service.

"Employees will be permitted to examine their records at any time upon application, but no employee shall be permitted to see the record of any other employee. Records will be kept in the office of the superintendent."

The schedule of merits and demerits follows:

**MOTORMEN AND CONDUCTORS—IMMEDIATE DISCHARGE**

1. Disloyalty to the company, intoxication, dishonesty and false statements.
2. Incompetency, insubordination or unsatisfactory service.
3. Gross carelessness resulting in accident.
4. Disobedience of orders resulting in accident.
5. Entering saloons when on duty without good excuse, or drinking on or before going on duty.
6. Motorman wilfully running a railroad crossing, also for conductor failing to report such motorman.
7. Conductor failing to properly flag a railroad crossing.
8. Motorman who operates over a crossing improperly flagged or who fails to report such improper flagging.

9. Overrunning a train order or running ahead of schedule.
10. Passing fixed or automatic signal at danger, without proper authority.

**DEMERITS**

	Marks
11. Failing to observe rules in taking and transferring orders .....	25
12. Getting on the time of another train without proper authority or protection .....	50
13. Failure to report accidents.....	15-25
14. Accidents when avoidable .....	minor 10 major 50
15. Pernicious gambling .....	50
16. Smoking on duty, on passenger trains.....	25
17. Ungentlemanly conduct .....	minor 10 major 50
18. The making of derogatory remarks in public as to the management of the road, or any official or any department of the road or as to the protective board of the B. I. T.....	minor 25 major 50
19. Disobedience of orders or rules.....	minor 10 major 50
20. Talking about accidents or other affairs of the company to others than the proper officials....	50
21. Incomplete and poor accident reports.....	10-25
22. Failure to show up or report for duty at proper time: First time in one month.....	10
Second time in one month .....	20
Third time in one month .....	40
23. Reading on duty, motorman or conductor.....	25
24. Carelessness with switches and main line derails.	25-50
25. Carelessness with siding derails.....	10
26. Unnecessary visiting of motorman and conductor	5
27. Improper handling of freight or baggage..	minor 10 major 25
28. Slovenly dressed or dirty appearance on passenger trains .....	10
28½. Failure to have watch inspected or sign comparison sheet .....	10
<b>CONDUCTOR'S DEMERITS</b>	
29. Failure to ring fares .....	25
30. Failure to turn in articles found on car.....	15
31. Mistakes in reports to auditor and car accountant .....	minor 5 major 15
32. Failure to promptly report damage to freight or baggage .....	10
33. Failure to cancel tickets.....	10-25
34. Error in taking register impression or readings..	10
35. Carelessness in using hat checks or cash fare receipts ..	15
36. Failure to give proper signals .....	minor 10 major 25
37. Inattention to passengers.....	minor 15 major 25
<b>MOTORMAN'S DEMERITS</b>	
38. Signals improperly displayed .....	minor 25 major 50
39. Carelessness or indifferent operation of car....	25
40. Backing train without proper signal and protection .....	50
41. Failure to whistle or ring gong in proper place or in proper manner .....	10-25
42. Inattention to duty or visiting with passenger or conductor or permitting unauthorized persons to ride in cab.....	10
43. Failure to report trouble or any defects with car, roadway or overhead .....	5-25
44. Starting car without proper signal except to avoid accident ..	20



- 45. Exceeding speed limit through towns and cities or yard limits, or over special work.....minor 10  
.....major 25
  - 46. Failure to observe stop, slow or caution signs. 10-25
  - 47. Leaving car without taking reverse lever, throwing overhead or pulling line switch..... 10
- MERITS
- 48. For the first six months without demerits..... 25  
For the second six months without demerits..... 75
  - 49. For any meritorious act which in the opinion of the discipline board deserves recognition..... 5-50
  - 50. Conductors and motormen reporting dangerous defects in track or overhead work or making temporary repairs to same.....10-25
  - 51. Assistance rendered in case of accident such as to bring commendation from passengers..... 10
  - 52. Motormen for exceptional good work in bringing in disabled car or repairing damaged car on road .....10-25
  - 53. Conductors turning in void transportation or that which is used by other than to whom it is issued 10

**OUTING OF THE NEW ENGLAND STREET RAILWAY CLUB**

The New England Street Railway Club held its regular August outing at New Bedford and Fairhaven, Mass., on Aug. 31, 1911. The party went by special train and at New Bedford were taken charge of by Elton S. Wilde, general superintendent of the Union Street Railway, New Bedford. The party was photographed in the new Union Street Railway's station. On account of rain the plan for the excursion to Woods Hole was abandoned, and the members of the club and guests, who numbered 175, attended a vaudeville performance.

After inspecting the Union Street Railway's building the party boarded special cars of the company and went to Fort Phoenix, Fairhaven. The baseball game had to be given up, but the clambake scheduled for the noon hour at Whitfield's pavilion was enjoyed. The return was made to Boston by special train at 4 o'clock.

**ELECTRIC EXPRESS SERVICE INTO BOSTON**

The Bay State Street Railway, Boston, Mass., on Sept. 1, 1911, connected Boston with its electric express service and now delivers merchandise at Neponset in the Dorchester district of Boston, thence to be distributed in the city by teams. The present charters of the West End Street Railway and the Boston Elevated Railway preclude the carrying of freight, though an effort was made this year to secure a franchise for the Boston Elevated Railway to carry merchandise.

The Bay State Street Railway has been securing local franchises, one after another, for some time. At the beginning the territory south of Boston will be served. Regular electric express cars will be run through Neponset, Quincy, Randolph, Avon, Braintree, Holbrook and Brookville to Brockton. From Brockton freight routes are in operation as far as Fall River and Newport, R. I., and there is a service to Providence, R. I. It is intended to make this an interstate service. Tariffs have been filed with the Interstate Commerce Commission and business will begin between points in Rhode Island, Connecticut and Massachusetts on Oct. 1 or thereabouts.

The company's carhouse at Neponset has been enlarged and an extension built for a freight house. A new freight house has been built at Quincy and others will be erected at various points as the system develops. The necessary capital for the electric express development has been authorized by the Massachusetts Railroad Commission.

North of Boston a similar system is being formed. Already numerous franchises have been secured in the towns and cities traversed by the company's lines, but there are some towns which have resisted the movement and refused suitable franchises. Where opposition is met the company will probably appeal to the Railroad Commission.

The principal towns and cities reached by the Bay State Street Railway are: Abington, Attleboro, North Attleboro, Avon, Bourne, Braintree, Bridgewater, Brockton, Dighton, Fall River, Fairhaven, Franklin, Hanson, Kingston, Lakeville, Marion, Mattapoisett, Middleboro, New Bedford, Onset, Plainville, Plymouth, Quincy, Randolph, Raynham, Rehoboth, Rockland, Scotland, Seekonk, Somerset, South Easton, Swansea, Taunton, Wareham, Westport, Whitman and Wrentham.

**NEAR-SIDE STOPS IN MILWAUKEE**

The Milwaukee Electric Railway & Light Company on Sept. 1 began stopping its cars only on the near side of street intersections within the business district, bounded on the north by Chestnut Street and Juneau Avenue, on the west by Seventh Street, on the south by Sycamore and Michigan Streets and on the east by Lake Michigan. The change to the new plan of near-side stopping was announced by quarter-page advertisements in the Milwaukee daily papers, accompanied by news items. The advertisements carried a map of the near-side stopping district. This map was 10 in. by 5 in. in size, showed the routes and indicated each stopping position, according to the new plan. The news item accompanying the illustration stated that one reason for changing to the near-side stop was to increase the convenience of passengers at transfer points. "Under the method now used passengers have much farther to walk and must cross the tracks in leaving one car to board another."

It is expected that the near-side plan will also improve traffic conditions at the busy downtown street intersections, where traffic is now handled under the police signal system.

**HEARING ON PROPOSAL OF NEW BUFFALO CORPORATION**

The Public Service Commission, Second District, New York, has announced that on Sept. 14 it will conduct a hearing on the petition of the International Traction Railways, a new company, for permission to construct an electric railway on Abbott Road in Buffalo and for authority to issue stock and bonds and to acquire stock and bonds and other obligations of the International Railway Company and allied companies.

On June 28, 1911, the committee representing the holders of the fifty-year 4 per cent collateral trust gold bonds of the International Traction Company stated that more than 97½ per cent of the bonds had accepted the bondholders' plan dated June 1, 1910, and modified bondholders' plan dated Jan. 20, 1911, and it is understood that the organization of the International Traction Railways is a step in the plan looking toward the reorganization of the International Railway Company and the International Traction Company, of Buffalo.

Considerable progress is being made with the conversion to electric traction of the Mont Cenis line from Modane to Bardonnèche, which will increase the carrying capacity through the Mont Cenis tunnel. Energy will be obtained from the municipal generating station at Chiomonte, where 3500 kw capacity will be available at 50,000 volts, 50 cycles. At Bardonnèche a substation will convert the supply to 3500 volts, 15 cycles for the overhead lines.



# Atlantic City Convention Program and Notes

The Complete Programs of the Meetings of All of the Associations and Information Regarding Transportation Arrangements, Including the Special Trains to Be Run from St. Louis and Chicago.

The following general program has been arranged for the annual convention of the American Electric Railway Association and its affiliated associations during the week of Oct. 9 to 13 at Atlantic City, N. J.:

## CONVENTION CALENDAR

Monday, October 9

- 9:00 A. M.—Opening of exhibits of Manufacturers' Association.  
 9:30 A. M.—Registration and issuance of badges at Convention Pier.  
 2:00 P. M.—Meeting of the Engineering Association.  
 2:00 P. M.—Social, informal gathering of Claim Agents' Association.  
 2:00 P. M.—Registration and issuance of badges to the Accountants' Association at Convention Pier.  
 2:30 P. M.—Meeting of the Transportation & Traffic Association.

Tuesday, October 10

- 9:00 A. M.—Meeting of the Claim Agents' Association.  
 9:30 A. M.—Meeting of the Accountants' Association.  
 9:30 A. M.—Session of the Engineering Association.  
 9:30 A. M.—Session of the Transportation & Traffic Association.  
 11:00 A. M.—Joint session of the Engineering and the Transportation & Traffic Associations.  
 2:00 P. M.—Meeting of American Association.  
 2:00 P. M.—Sessions of the Claim Agents' Association.  
 2:00 P. M.—Inspection of exhibits by the Engineering Association.

Wednesday, October 11

- 9:00 A. M.—Session of the Claim Agents' Association.  
 9:00 A. M.—Joint session of the Accountants' and Engineering Associations.  
 9:30 A. M.—Session of the Transportation & Traffic Association.  
 11:30 A. M.—Joint session of the Accountants' and Transportation & Traffic Associations.  
 2:00 P. M.—Session of American Association.  
 2:00 P. M.—Closing session of the Claim Agents' Association.  
 2:00 P. M.—Inspection of exhibits by the Engineering Association.  
 5:00 P. M.—Annual meeting of the Manufacturers' Association.

Thursday, October 12

- 9:30 A. M.—Closing session of the Accountants' Association.  
 9:30 A. M.—Session of the Engineering Association.  
 9:30 A. M.—Closing session of the Transportation & Traffic Association.  
 2:00 P. M.—Closing session of American Association.  
 2:00 P. M.—Inspection of exhibits by the Engineering Association.

Friday, October 13

- 9:30 A. M.—Closing session of the Engineering Association.

## ASSOCIATION HEADQUARTERS

The headquarters hotels of the several associations at the Atlantic City convention will be as follows:  
 American Association.....Marlborough-Blenheim  
 Accountants' Association.....Chalfonte  
 Engineering Association.....Dennis  
 Claim Agents' Association.....Traymore  
 Transportation & Traffic Association.....Traymore  
 Manufacturers' Association.....Marlborough-Blenheim

## PROGRAM OF AMERICAN ASSOCIATION

The American Association will announce no definite program for the convention. Its sessions, some of which will be executive, will be held Tuesday, Wednesday and Thursday.

## PROGRAM OF ACCOUNTANTS' ASSOCIATION

All regular sessions at the Chalfonte Hotel. Joint session with Engineering Association at Marine Hall, Convention Pier. Joint session with Transportation & Traffic Association at Greek Temple, Convention Pier.

Monday, October 9

2:00 P. M. to 5:00 P. M.

Registration and badges, Convention Pier.

Tuesday, October 10

9:30 A. M. to 12:30 P. M.

Convention called to order.

Annual address of president.

Annual report of executive committee.

Annual report of secretary-treasurer.

Paper—"Accounting System for a Small Electric Railway," by E. D. Gault, auditor Mahoning & Shenango Railway & Light Company, Youngstown, Ohio.

Report of the committee on interline accounting.

Report of the committee on car miles and car hours.

Appointment of convention committees.

Appointment of nominating committee.

New business.

1:00 P. M.

"Get-together luncheon," Marlborough-Blenheim.

Informal talk by M. R. Boylan, general auditor Public Service Railway Company, Newark, N. J., "Prepayment Fare Accounting."

Wednesday, October 11

9:30 A. M.

Report of the joint committee on engineering accounting. (Joint meeting with Engineering Association.)

11:30 A. M.

Report of the joint committee on express and freight accounting. (Joint meeting with Transportation and Traffic Association.)

Thursday, October 12

9:30 A. M. to 12:30 P. M.

Address—"Overhead Charges," by Dean M. E. Cooley, of the University of Michigan.

Paper—"Information Furnished Officers and Departmental Heads by the Auditing Department."

Report of the committee on life of railway physical property.

Report of the committee on a standard classification of accounts.

Reports of convention committees.

Report of nominating committee.

Election of officers.

Installation of officers.

Adjournment.

## PROGRAM OF ENGINEERING ASSOCIATION

All Sessions at Marine Hall, Convention Pier

Monday, October 9

9:30 A. M. to 12:30 P. M.

Registration and badges, Convention Pier.

2:00 P. M. to 5:30 P. M.

Convention called to order.

Annual address of president.

Annual report of executive committee.

Annual report of secretary-treasurer.



Appointment of convention committees.  
Report of the committee on education of engineering apprentices.

Report of the committee on power distribution.

Tuesday, October 10

9:30 A. M. to 11:00 A. M.

Report of the committee on heavy electric traction.

11:00 A. M. to 1:30 P. M.

Report of the joint committee on block signaling for electric railways. (Joint meeting with Transportation & Traffic Association.)

Wednesday, October 11

9:30 A. M. to 11:30 A. M.

Report of the joint committee on engineering accounting. (Joint meeting with Accountants' Association.)

11:30 A. M. to 1:30 P. M.

Appointment of nominating committee.

Report of the committee on power generation.

Photograph of the convention will be taken Wednesday, immediately after the closing of the session, in the ball-room on the Pier.

Thursday, October 12

9:30 A. M. to 1:30 P. M.

Report of the committee on buildings and structures.

Report of the committee on way matters.

Friday, October 13

9:30 A. M. to 1:30 P. M.

Report of the committee on equipment.

Report of the committee on rules of procedure of the committee on standards.

Report of the committee on standards.

Question box

General business.

Report of the nominating committee.

Election of officers.

Installation of officers.

Adjournment.

#### PROGRAM OF CLAIM AGENTS' ASSOCIATION

All sessions at the Traymore Hotel

Monday, October 9

9:30 A. M. to 12:30 P. M.

Registration and badges, Convention Pier.

2:00 P. M. to 5:00 P. M.

Social gathering, informal, to afford the members an opportunity of getting acquainted. Short, impromptu talks by president and other members.

Tuesday, October 10

9:00 A. M. to 12:30 P. M.

Convention called to order.

Annual address of president.

Annual report of executive committee.

Annual report of secretary-treasurer.

Reports of special committees.

Appointment of convention committees.

Paper—"Trainmen. Their Selection and Method of Instruction in Order to Obtain Complete and Intelligent Accident Reports," by E. P. Walsh, attorney United Railways Company of St. Louis, St. Louis, Mo., and A. E. Beck, claim agent British Columbia Electric Railway Company, Ltd., Vancouver, B. C.

General discussion.

2:00 P. M. to 5:00 P. M.

Paper—"The Prevention of Accidents." (a) "What Can Be Done to Increase the Interest of Employees of All Departments in This Work." (b) "The Best Means of Promoting Greater Caution on the Part of Platform Men." By Ellis C. Carpenter, claim adjuster Indiana Union Traction Company, Anderson, Ind., and F. J. Whitehead, secretary and claim agent Washington Railway & Electric Company, Washington, D. C.

General discussion.

Paper—"The Practical Value of Our Index Bureau with

Some Statistics and Illustrations," by H. R. Goshorn, general claim agent Philadelphia Rapid Transit Company, Philadelphia, Pa., and Cecil G. Rice, superintendent of claim department Pittsburgh Railways Company, Pittsburgh, Pa.

General discussion.

Appointment of nominating committee.

Wednesday, October 11

9:00 A. M. to 12:30 P. M.

Paper—"How Can the Public Be Educated in the Prevention of Accidents," by B. F. Boynton, claim agent Portland Railway, Light & Power Company, Portland, Ore., and Seth W. Baldwin, claim attorney The Connecticut Company, New Haven, Conn.

General discussion.

2:00 P. M. to 5:00 P. M.

General business.

Reports of convention committees.

Report of nominating committee.

Election of officers.

Installation of officers.

Adjournment.

#### PROGRAM OF TRANSPORTATION & TRAFFIC ASSOCIATION

All regular sessions and joint session with Accountants' Association at Greek Temple, Convention Pier. Joint session with Engineering Association at Marine Hall, Convention Pier.

Monday, October 9

9:30 A. M. to 12:30 P. M.

Registration and badges, Convention Pier.

2:30 P. M. to 5:00 P. M.

Convention called to order.

Annual address of the president.

Annual report of the executive committee.

Annual report of the secretary-treasurer.

Appointment of convention committees.

Reports of special committees.

Report of committee on subjects.

Report of committee on training of transportation employees

Report of committee on passenger traffic.

Tuesday, October 10

9:30 A. M. to 12:30 P. M.

Report of committee on interurban rules.

Report of committee on block signaling for electric railways. (Joint meeting with Engineering Association.)

Wednesday, October 11

9:30 A. M. to 12:30 P. M.

Appointment of committee on nominations.

Report of committee on city rules.

Report of committee on express and freight traffic.

Report of joint committee on express and freight accounting. (Joint meeting with Accountants' Association.)

Thursday, October 12

9:30 A. M. to 12:30 P. M.

Report of committee on fares and transfers.

Paper—"Operation of Multiple Car Trains on City Lines," by C. J. Franklin, general superintendent of railway department Portland Railway, Light & Power Company, Portland, Ore.

Report of committee on construction of schedules and timetables.

General business.

Report of nominating committee.

Election of officers.

Installation of officers.

Adjournment.

#### ENTERTAINMENT FEATURES

General direction of the entertainment features during convention week will be in the hands of W. L. Conwell, vice-president of the Manufacturers' Association, and C. R. Ellicott, chairman of the entertainment committee. The



usual pleasing variety of entertainment will be provided. Monday evening, Oct. 9, in ballroom, Convention Pier, reception in honor of the officers and ladies of the associations; Tuesday afternoon, cards for ladies, and manufacturers' amateur vaudeville in the evening, followed by dancing, Convention Pier; Wednesday, ladies' afternoon at the Country Club, and athletic carnival, followed by dancing at pier in the evening; Thursday afternoon, aviation exhibition, ocean end of Pier, and promenade concert and ball on Convention Pier in evening; Friday morning, aviation exhibition, and at the Marlborough-Blenheim Hotel informal dancing in the evening.

Arrangements have been made for the free use of rolling chairs by members and guests.

Plans for a golf tournament have been made. Those interested should bring clubs, although a limited number of clubs will be available.

#### TRANSPORTATION ARRANGEMENTS

President A. W. Brady, of the American Association, has appointed the following local committees:

New York City: J. H. Pardee, New York.

New York State: C. Loomis Allen, Utica.

Philadelphia and vicinity: E. C. Spring, Philadelphia.

New England States: H. C. Page, Worcester, Mass.

Middle Atlantic States, including Delaware, Maryland, Virginia and District of Columbia: C. B. Buchanan, Richmond, Va.

Southeastern States, including North Carolina, South Carolina, Georgia and Florida: P. S. Arkwright, Atlanta, Ga.

Central Electric Railway Association territory, including Indiana, Ohio, Michigan and Western Pennsylvania: C. D. Emmons, South Bend, Ind., and E. B. Peck, Indianapolis, Ind.

Chicago, including Northern Illinois and Wisconsin: J. M. Roach, Chicago, Ill.; E. C. Faber, Wheaton, Ill.; E. E. Downs, Belvidere, Ill.

Central Northwestern States, including Minnesota, North Dakota, South Dakota and Iowa: L. D. Mathes, Dubuque, Ia.

St. Louis and Kansas City, including Missouri and Southern Illinois, Capt. Robert McCulloch, St. Louis, Mo.; H. E. Chubbuck, Peoria, Ill.; C. F. Holmes, Kansas City, Mo.

Southwestern States, including Oklahoma, Arkansas and Louisiana: D. A. Hegarty, New Orleans, La.

Texas: E. T. Moore, Dallas, Tex.

West, including Colorado, Utah, Nebraska and Kansas: C. B. Wells, Denver, Col.

California: C. N. Black, San Francisco, Cal.

Northwestern States, including Washington, Oregon, Montana and British Columbia: H. T. Edgar, Seattle, Wash.

Canada: James Anderson, Windsor, Ont.

The Manufacturers' Association has appointed the following local committees which will serve jointly with the committees appointed by the American Association:

New York City, New York State, Philadelphia and vicinity, Middle Atlantic States, including Delaware, Maryland, Virginia and District of Columbia; Southeastern States, including North Carolina, South Carolina, Georgia and Florida, and Canada, E. H. Baker, Galena Signal Oil Company, New York City.

New England States: Charles C. Peirce, General Electric Company, Boston.

Central Electric Railway Association territory, and including Indiana, Ohio, Michigan and Western Pennsylvania: H. C. Ebert, Cincinnati Car Company, Cincinnati, Ohio.

Chicago, including Northern Illinois and Wisconsin; Central Northwestern States, including Minnesota, North Dakota, South Dakota and Iowa; the West, including Colorado, Utah, Nebraska and Kansas; California and Northwestern States, including Washington, Oregon, Montana

and British Columbia: A. H. Sisson, Forsyth Brothers Company, Chicago, Ill.

St. Louis and Kansas City, including Missouri and Southern Illinois; Southwestern States, including Oklahoma, Arkansas, Louisiana and Texas: Scott H. Blewett, American Car & Foundry Company, St. Louis, Mo.

#### RAILROAD RATES

The Trunk Line Association and the New England Passenger Association (except Bangor & Aroostook Railroad and Eastern Steamship and Maine Steamship Companies) have granted a rate of one and one-half first-class limited fare, with minimum of \$2, for round-trip, going and returning, via same route only. Tickets good going Oct. 6 to 10 inclusive, and returning, to reach original starting point not later than Oct. 16. The Central Passenger Association has granted one and one-half fare for round-trip, good going Oct. 5 to 9 inclusive, and returning to reach starting point not later than Oct. 17. The Southwestern Passenger Association has offered special rates, good going Oct. 4 to 7 inclusive, returning to starting point not later than Oct. 18. The Eastern Canadian Passenger Association will charge the lowest one-way first-class fare and one-half from Kingston, Sharbot Lake, Renfrew and west, good going Oct. 5 to 9 inclusive; east of these points, good going Oct. 6 to 10 inclusive, return to starting point not later than Oct. 16. The Western Passenger Association, from its territory, has granted double the one-way fares to Chicago, Peoria or St. Louis, added to one and one-half fare tendered therefrom, from points in Illinois south of, but not including, a line from Chicago through Aurora, Mendota and Galesburg to Burlington; also from St. Louis, Mo., and other Mississippi River points south of, but not including, Burlington. Tickets sold going Oct. 5 to 9 inclusive; returning to starting point not later than Oct. 17. From other points in this territory tickets will be sold, going Oct. 4 and 8, returning not later than Oct. 18. The Trans-Continental and Southwestern Passenger Associations will not make special rates, but on the former delegates should avail themselves of the tourist nine months' excursion rates to Eastern termini. On the latter tickets should be purchased to Eastern gateways and special rates obtained therefrom.

#### SPECIAL TRAIN FROM ST. LOUIS

The train will be run over the Pennsylvania lines and will be in charge of the following committee: Capt. Robt. McCulloch, chairman; L. C. Haynes, C. F. Holmes, D. A. Hegarty, H. T. Edgar, W. J. Jones and Arthur S. Partridge.

It will be composed of a composite car with bathroom, barber, buffet and library, a library smoking car, baggage car, standard Pullman sleeping cars, compartment, observation, sleeping car and dining cars. A maid will be in attendance on the train. All cars will be lighted with electricity, with lights in each berth and electric fans in each car. The members of the party will have access to baggage in the baggage car if desired. Dining cars will serve meals à la carte except a special table d'hôte dinner the first night.

The train will run on the following schedule: Leave St. Louis, Saturday, Oct. 7, 12:25 p. m.; leave Terre Haute, 4:35 p. m.; leave Indianapolis, 6:35 p. m., leave Columbus, Saturday, Oct. 7, 11:55 p. m.; leave Pittsburgh, 6:30 a. m.; leave Philadelphia, 2:45 p. m.; arrive Atlantic City, Sunday, Oct. 8, early in afternoon.

The railroad fare, St. Louis to Atlantic City and return, will be \$33.40. Tickets will be sold at this low rate, from Oct. 5 to 9, good returning up to Oct. 18. Sleeping car rates from St. Louis to Atlantic City will be: Berth, \$6; compartment, \$17; drawing room, \$21. The return trip will be made on regular trains. Sleeping car reservations for return trip can be made after arrival at Atlantic City through J. S. Murphy, passenger agent Pennsylvania Railroad at Atlantic City. Applications for sleeping car accommodations on the special train from St. Louis should be sent in at an early date to Arthur S. Partridge, New Bank of Commerce Building, St. Louis, Mo.



SPECIAL TRAIN FROM CHICAGO

The committee in charge of the special train from Chicago, consisting of E. C. Faber, Aurora, Elgin & Chicago Railroad; J. M. Roach, Chicago Railways; E. E. Downs, Elgin & Belvidere Electric Railway, and A. H. Sisson, Forsyth Brothers Company, has arranged for a train to be run over the Pennsylvania Railroad. The train will leave Chicago about noon on Sunday, Oct. 8, and will arrive at Atlantic City about 10 a. m. Monday, Oct. 9. The round-trip fare from Chicago will be \$29.25 and the one-way fare to Atlantic City will be \$19.50. The Pullman fare will be \$5. Reservations can be made through the district passenger agent of the Pennsylvania Railroad, 248 South Clark Street, Chicago. The committee is planning an especially elaborate program of entertainment for the journey. The train will consist of all-steel standard and compartment sleeping cars, two dining cars and an observation car.

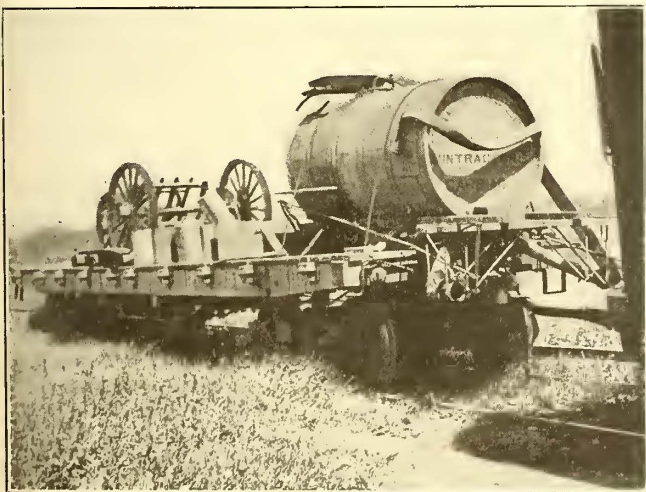
BULLETIN ON SHIPPING OF EXHIBITS

The exhibit committee of the Manufacturers' Association has sent to all exhibitors a bulletin containing suggestions with regard to packing and shipping exhibits to Atlantic City. All shipments should be made in plenty of time to allow for railroad and transfer delays and possible bad weather which may interfere with placing the exhibits on the Pier. It is suggested that screws be used instead of nails in fastening packing cases to facilitate the removal and replacement of the covers to boxes. It is also suggested that the return address be marked on the inside of the covers of boxes so that the cover can be reversed when packing up and thus save time and possible mistakes in labeling the boxes. All boxes containing shipments which are not to be returned should be plainly marked: "Not to Be Returned."

The exhibit committee urges all exhibitors to have their spaces in readiness on Saturday morning, Oct. 7. The address of the exhibit committee after Sept. 28 will be Million Dollar Pier, Atlantic City.

DESTROYING WEEDS ON THE ALBANY SOUTHERN RAILROAD

The Albany Southern Railroad has devised a simple and inexpensive method of spraying a chemical solution on its right-of-way to destroy weeds. An ordinary street-sprinkling wagon was rented from a sprinkling contractor and the running gear was removed. The tank was placed on one



Street Sprinkler Used for Destroying Weeds

end of a flat car with the nozzles dropped down below the end sill. Two pieces of cable were used to fasten the tank down on the car floor. The tank is filled from hydrants or

pumps in the towns and the chemicals are put in, after which the car is pulled over the road at slow speed with the sprinkling nozzles open. The accompanying engraving from a photograph shows the tank mounted on the car together with several cans of weed-destroying chemicals and the running gear.

NEW BALL-BEARING JACK

An interesting recent development in lifting jacks is an improved type with ball-bearing journals recently placed upon the market by the Duff Manufacturing Company, of Pittsburgh, Pa. These jacks are made in two regular sizes, each with a capacity of 15 tons. One size is 9 3/4 in. high and has a "raise" of 4 in., the other is 11 in. high and has a "raise" of 5 in. Both jacks contain ball bearings on which the load is raised, making them easy to operate. All the gears are forged, with machine-cut teeth. The jacks are arranged to raise their load on the downward movement of the lever handle.



Ball-Bearing Jack

Another feature in these jacks is the adjustable wheel-holding device, designed to hold the car wheel down when the jack is being operated. This device is very essential under many conditions, but it may be easily detached when it is not required.

REPLACEABLE EAR TROLLEY FROG

The Gilbert replaceable ear trolley frog, which has had a thorough trial on some of the large Western lines for several years, is now being offered to electric railways generally by the manufacturers, A. Gilbert & Sons Brass Foundry Company, St. Louis, Mo. The first of these frogs was made twelve years ago and showed many economies over the one-piece type frog, but the makers were not willing to place them on the market until they had perfected the design and arranged a bronze composition that would exactly meet the peculiar requirements. As the frog is now offered it consists of a long pan terminating in 10-in. leads having at the end strong plates to which are attached heavy ears of the clinch type. The frog and ears are cast in bronze of a special composition of the greatest rigidity and toughness. The long pan, with an inclined plane at each end, insures an easy transition of trolley wheel between the tongue and pan which adds greatly to the speed and safety of the trolley operating on these frogs. Each frog is provided with six guy rings, two on opposite sides of the center of the pan, and the other four at the plates on the end of the lead. When these frogs are in place on the wire practically all of the wear comes on the ears, which may be replaced quickly at small cost and without interfering in the slightest degree with traffic.

A number of the English municipal corporations have made special contributions to defray the cost of researches into the corrugation of tramway rails now being carried out by a sub-committee of the Municipal Tramways Association. Each corporation will defray a part of the expenses of the investigation proportionate to the amount of its gross receipts.



## ELECTRIC RAILWAY LEGAL DECISIONS

## LIABILITY FOR NEGLIGENCE

**Indiana.**—Frightening Animals.

In order to show a duty on the part of a street railway motorman to slow down or stop his car when he sees that a team is being frightened by it, it must appear that a person of reasonable prudence would have been led to believe that the persons driving were in danger, that the further approach of the car would probably increase the danger, and that by ordinary care the motorman could have taken precautions which would have avoided causing the injury. (*Evansville Electric Ry. Co. v. Folz*, 93 N. E. Rep., 866.)

**Iowa.**—Injuries to Animals—Statutory Provision—"Railway."

Code, Sec. 2072, requiring a bell and a steam whistle to be placed on each locomotive engine operated on any railway, and the whistle to be sounded 60 rods before a highway crossing is reached and the bell to be rung from that time continuously till the crossing is passed, is made applicable to electric interurban railways by Acts 29th Gen. Assem., Chapter 81, Sec. 2 (Code Supp., Sec. 2033b), providing that the word "railway," as used in the Code, shall apply to and include all interurban railways, so that an interurban railway failing to give the signals required by Sec. 2072 is guilty of negligence per se.

Where a motorman on an interurban electric car sees, or in the exercise of reasonable care should see, a horse on a crossing ahead of the car, it is his duty to give warning signals by blowing the air whistle or ringing the gong, since such signals would be calculated, even in the case of a dumb animal, to cause it to get off the track and avoid injury. (*Swisher v. Interurban Ry. Co.*, 130 N. W. Rep., 404.)

**Kentucky.**—Killing Stock—Ordinary Care.

Where the uncontradicted and unimpeached testimony of the company's servants, operating a train or an electric car, shows that the killing of live stock could not have been avoided by the exercise of ordinary care, it is not proper for the jury to find otherwise. (*Byrd v. Central Kentucky Traction Co.*, 125 S. W. Rep., 174.)

**Michigan.**—Obligation of Carriers to Boarding Passengers.

A street car must stop a sufficient length of time to enable a passenger to board it and reach a place of safety in the car, and this duty is a continuing one from the initial attempt of the passenger to board the car until final accomplishment. (*Formiller v. Detroit United Ry.*, 130 N. W. Rep., 347.)

**Minnesota.**—Carriage of Passengers—Care Required.

The degree of care to be exercised by a common carrier with reference to its passengers is the highest degree of care and foresight consistent with the conduct of its business, or consistent with the practical operation of its road. *Fewings v. Mendenhall*, 88 Minn. 336, 93 N. W. 127, 60 L. R. A. 601, 97 Am. St. Rep. 519; *Campbell v. Duluth & North-eastern R. Co.*, 107 Minn. 358, 120 N. W. 375, 22 L. R. A. (N. S.) 190. A common carrier is required to take every reasonable precaution for the safety of its passengers. *Smith v. St. P. City Ry. Co.*, 32 Minn. 1, 18 N. W. 827, 50 Am. Rep. 550. That degree of care which would be exercised by the ordinary prudent person under the same circumstances is not the test applicable to a motorman of a street car, and it was error so to charge. (*Hill v. Minneapolis St. Ry. Co.*, 128 N. W. Rep., 832.)

**Missouri.**—Moving Cars—Stepping on Running Board—Question for Jury—Excessive Damages.

It is not negligence per se to step on the running board of a street car while the car is running slowly preparatory to stopping.

Where a hale and vigorous passenger of sixty-seven was injured while alighting from a car by a sudden jerk, throwing him to the pavement, by which his hip was broken, and other injuries ensued, and he had to be put in a plaster cast which practically covered half his body, and during the whole time he suffered greatly, and was in bed over eight months, and at the time of trial, three years after the accident, was barely able to go the distance of one or two city squares with the aid of crutches, and required attendance

when he went a greater distance, and his injury was permanent, a verdict of \$7,750 was not excessive. (*Setzler v. Metropolitan St. Ry. Co.*, 127 S. W. Rep., 1.)

**Missouri.**—Injuries to Passengers—Assault by Carrier's Servant.

The rule that the master is not liable for the torts of the servant, unless the act itself pertains to the service for which the servant is employed, does not apply to an assault on a passenger by a carrier's servant, in which case the carrier's liability arises, not out of the relation of master and servant, but out of that of carrier and passenger, the carrier being bound to protect the passenger against assaults not only of its servants but of third persons. (*Shelby v. Metropolitan St. Ry. Co.*, 125 S. W. Rep., 1189.)

**Missouri.**—Assault on Passenger—Scope of Employment—Exemplary Damages.

A carrier is liable for the acts of its conductor in assaulting a passenger while engaged in the performance of his duty as such, precisely as the conductor himself would be.

If the relation of passenger and carrier has ceased to exist the liability of the carrier for the act of the servant in assaulting a passenger no longer exists.

Where the jury were justified in finding that a street car conductor followed a passenger to the steps of a car and struck him with a switch iron while he was in the act of alighting, a proper case for exemplary damages is made out, as such action evinces malice.

Where a passenger, assaulted by a conductor with a switch iron, received a scalp wound about 3 in. long that laid bare his skull, and his skull was fractured, resulting in a blood tumor in the eye, in the loss of his memory, and a change of his disposition, and his injuries were permanent, and the assault was vicious and unprovoked, a verdict of \$5,000 compensatory damages and \$2,000 exemplary damages, is not excessive. (*Neuer v. Metropolitan St. Ry. Co.*, 127 S. W. Rep., 669.)

**New York.**—Injuries—Persons Liable.

Though at that time of a street railway accident title to the property of the company was in a receiver, he cannot be held liable where the road was then being operated by another company and he did not assume charge until thereafter, since it is not a question of who had title to the property, but of who controlled the motorman whose negligence caused the accident. (*Lauber v. Linch*, 119 N. Y. Sup., 614.)

**New York.**—Receivers—Insolvency—Leases—Personal Injury Claimants.

Where a street railway company leased its property, which was subject to mortgages securing bonds, to an operating company, personal injury claimants were only creditors of the lessee and were not entitled to payment as against the holders of the bonds secured by the mortgages. (*Guaranty Trust Co. of New York v. Metropolitan St. Ry. Co. et al.*, *Farmers' Loan & Trust Co. v. Same*, 180 Fed. Rep., 637.)

**New York.**—Passenger Alighting at Emergency Stop.

A street car made a momentary stop about a quarter of a block from its regular stopping place at a transfer point because another car ran in ahead of it. A passenger, without any notice to the conductor or motorman, and without knowledge that the car had not reached its regular stopping place, attempted to alight, and while doing so the car started and she was injured. There was no evidence of any signal by the conductor to the motorman either to stop or to start the car. Held, as a matter of law, not to show negligence in the operation of the car. (*Foden v. Brooklyn Heights R. Co.*, 121 N. Y. Sup., 420.)

**Pennsylvania.**—Carriage of Passengers—Care Required.

A carrier of passengers for hire is required to use a high degree of care to prevent injury to his passengers but is not required to protect them from every injury, and in an action by a passenger for personal injuries it was error to charge that the carrier owed the passenger the duty to use "such a degree of care as would be necessary under all the circumstances of the case and would prevent injury to the passengers." Such charge would make the carrier an insurer. (*Carothers v. Pittsburg Rys. Co.*, 79 At. Rep., 134.)



# News of Electric Railways

## Operation in Kansas City Under the Receivers

R. J. Dunham, one of the receivers of the Metropolitan Street Railway, Kansas City, Mo., conferred on Aug. 29, 1911, with officials of the city in regard to the affairs of the company. Mr. Dunham is quoted as follows:

"When Frank Hagerman, counsel for the company, applied for a receiver one of the objects set forth was the preservation of the system. We are bound to the federal court by this petition and we are legally pledged to preserve the system if possible. We will try by all means to meet our obligations. Should we delay the payment of interest or fail to meet the obligations of the company the creditors might demand the dismemberment of the system and the return of their individual holdings.

"The rate of increase in street car traffic in Kansas City is lessening, showing that the city's growth is not so great as in former years. For the year ended June 1, 1911, the increase over the previous year was 5.54 per cent. The road has been in the hands of receivers nearly three months and the increase over last year is now a little more than 1 per cent. At the outset of the receivership an estimate of revenues and necessary expenditures was made. On those figures we could have operated the property, met our indebtedness and had a small amount more with which to make improvements. But the receipts since have decreased. We are not giving as good service as we would like to, but the service is better than it was a year ago. We are operating more cars in proportion to the number of passengers than we did a year ago."

Kansas City, Mo., and Kansas City, Kan., are acting in conjunction in connection with the subject of rates charged by the Kansas City Viaduct & Terminal Railway for the passage of street cars across the intercity viaduct. As a preliminary measure, the Utilities Commission of Kansas City, Mo., has determined to investigate the viaduct company's affairs, those of the Metropolitan Street Railway and allied corporations, and the Kansas City & Western Railway. It is proposed to inquire into the actual value of the intercity viaduct, the cost of its operation, the saving to the Metropolitan Street Railway and the Kansas City & Western Railway in time and money, if any, in operating cars over the viaduct and the value to the public of service over the viaduct. The investigation was provided for in a resolution by the Utilities Commission, in which the Commission expressed the belief that, under the franchises of the Kansas City Viaduct & Terminal Railway, it is compelled to allow the use of its structure for street cars and other carriers at reasonable rates; that Kansas City, Mo., has, under the franchise it granted to the company, the right to determine and fix such rates, and that all that now remains to be done in order to secure a resumption of car service over the viaduct is to find out what just and reasonable rates are.

According to Mr. Dunham, the receivers are willing at any time to resume service over the intercity viaduct, but he insists it must be at a reasonable rate. Mr. Dunham is reported to have said:

"We cannot afford to pay the 1-cent rate. Eighty per cent of the business moving across the viaduct was transfer business. That means that nearly half of the passengers also used another line, making operating expenses almost double. Our books show that for each passenger hauled across the viaduct we virtually received 3.15 cents. Of this amount 2.6 cents went for operation, maintenance, fixed charges and taxes, leaving only .55 of a cent with which to pay the 1-cent charges against us."

It is estimated that it takes only three minutes longer to go from the center of Kansas City, Mo., to the center of Kansas City, Kan., now than when the viaduct was used, and that fewer transfers are made than formerly, resulting in a saving to the passenger of the time spent in waiting at transfer points.

A conference between city officials and Mr. Dunham and Ford H. Harvey, receivers, and Frank Hagerman, counsel for the company, has been arranged to be held on Sept. 12, 1911.

## Discussion of Proposed Franchise Ordinance in Los Angeles

At a hearing on Aug. 24, 1911, on the proposed ordinance to prescribe general terms for the granting of franchises in Los Angeles, Cal., Paul Shoup, first vice-president of the Pacific Electric Railway, opposed the ordinance. Mr. Shoup said in part:

"The city under the proposed ordinance is to receive for electric railroad franchises not less than 30 per cent of the net annual receipts, and in computing such receipts nothing is to be allowed for interest on bonds or any other investment whatsoever in the plant. The street car lines yet to be built are extensions or connecting links; not main stems. How would this provision affect an investment in an extension?"

"A double track street railway line of one mile built with grooved rails 114-lb. section, paving as per city specifications, costs more than \$100,000 per mile. Consider a 1-mile line well located and at the end of ten years contributing, say, \$18,000 to the company. The operating expenses, taxes, depreciation and renewals may be figured conservatively at 75 per cent, which would leave a net operating profit of \$4,500. Of this, \$1,350—or 30 per cent—would go to the city, leaving \$3,150 to meet an interest charge of, say, \$6,000 on the \$100,000 investment. The gross annual earnings contributed by this new mile of double track line must reach the extraordinary figure of nearly \$35,000 before it is possible to pay 6 per cent on the money invested—and with no allowance for a sinking fund. These figures illustrate that the proposed ordinance would take 30 per cent of net revenue above operating expenses for such line, regardless of whether or not the amount left is sufficient to allow interest on the amount invested. The investor faces the possibility of operating at a loss for years and at a time when the line becomes profitable of having the city take it over.

"Another provision decrees that if the board of public utilities judges any expenditures to have been wasteful, extravagant or useless they shall not be considered in computing net annual receipts, and that salaries of all employees are left to be subject to the city's approval; in case of disagreement between the city and the company arbitration is to follow. This provision follows the line of the Chinese settlement. No condition corresponding in any respect exists here.

"Section 9 would give the city the right to purchase the line three years after the granting of the franchise, either to operate itself or to sell to somebody else. The owner is to have at least six months' notice to vacate. The price is to be the value of the property as an operating road with no value for good-will, future profits or obsolete equipment, and no regard for the stocks and bonds or other capitalization of such plant. Mortgages securing bonds must be drawn accordingly.

"Section 13 states that any other companies engaged in like business desiring to avail themselves of the benefits, privileges and rights conferred by a franchise shall have a common right to have their cars switched and transferred at equal and reasonable pro rata rates. This section means that any one coming to Los Angeles, buying a franchise for a few blocks and building a line would have the right to use at reasonable pro rata rates all the other lines built under franchises granted through this ordinance which he could intersect or connect with.

"Sections 19 and 20 reserve to the city the right to change the motive power, prescribe the style and type of cars and all the detail of the equipment, and as well to pass upon power contracts and other contracts of great importance. No obligation to make expensive changes in or abandon such equipment upon request should become a provision of some relatively unimportant franchise. And obviously it is out of the question to have separate power contracts or separate equipment of a special design for a mile or a few miles of road. This section should be modified to the point simply of giving the city power to see that clean and comfortable cars properly equipped and well maintained are operated."



### Toledo Railways & Light Company Rejects Rental Proposal

The directors of the Toledo Railways & Light Company, Toledo, Ohio, by unanimous vote on Aug. 31, 1911, adopted the following resolutions, refusing to agree to a rental of \$250 per day for the use of the streets upon which its franchises are said to have expired:

"Whereas, the Council of Toledo purported to pass, on July 26, 1911, and the Mayor purported to approve, an alleged ordinance, purporting to grant the consent, permission and authority of Toledo to the Toledo Railways & Light Company, to continue from day to day to operate its cars upon the streets and portions of streets in said purported ordinance set forth:

"Be it resolved, by the board of directors of the Toledo Railways & Light Company, that said purported ordinance and offer therein contained be, and the same hereby are, refused, and that no cars of this company be operated at any time under or in pursuance of said purported ordinance, or of any grant, permission, authority or condition therein set forth."

On Aug. 28 the city, through Cornell Schreiber, city solicitor, filed suit in Common Pleas Court asking for an injunction to prevent the company from operating cars upon the eighteen sections of streets enumerated, unless it pays the rental of \$250 per day since Nov. 10, 1910, amounting to \$70,000 at the time of the passage of the ordinance. The petition specifically describes the sections of the streets upon which it is claimed that the ordinances have expired and asserts that the company has been operating its cars over them since Nov. 10, 1910, as a trespasser.

The statement of earnings of the company for July and for the first seven months of the year follows:

	July.	Seven Months.
Gross receipts.....	\$244,057	\$1,783,528
Operating expenses.....	152,092	1,118,648
Net earnings.....	\$91,965	\$664,880
Miscellaneous income.....	481	5,112
Gross income.....	\$92,446	\$669,992
Deductions.....	79,052	554,381
Surplus.....	\$13,394	\$115,611

### United Properties Developments in California

A portion of the Smith-Tevis holdings in Alameda County, Cal., was incorporated on Aug. 19, 1911, with a capitalization of \$27,000,000, under the name of the Oakland Railway. It is announced by officials of the United Properties Company, the incorporation of which was noted in the *ELECTRIC RAILWAY JOURNAL* of Jan. 14, 1911, that the Oakland Railway was incorporated to simplify the expenditure of a large amount of money which is to be used in improvements and extensions of the railroad properties in Alameda County controlled by the United Properties Company. The roads on which this money will be expended are the San Francisco, Oakland and San José Railway (Key Route), the Oakland Traction Company, the East Shore Railway and the Oakland Terminal Company. The first work to be undertaken will be filling in the pier of the Key Route to a width of 1000 ft. and with masonry walls extending the full length of the structure from the shore to the present ferry terminal. Following this, it is announced, will come the double tracking of some of the single-track lines of the Oakland Traction Company, the improvement of the East Shore Railroad, and the purchase of additional rolling stock for each of the lines operated by the United Properties Company.

It is explained that the incorporation of the Oakland Railways was necessary to simplify the division of the funds in accounting for the expenditures to be made for the different lines in common and in the improvement of portions of the property of each of the separate concerns. The stock consists of 270,000 shares, at \$100 each, 100,000 being preferred and 170,000 common. The names of the incorporating stockholders follow: John S. Fleming, S. Canham, Lloyd S. Jackson, C. Corner, G. A. Fay, W. Schmulowitz and Oliver B. Weyman.

It is expected that by the time the new Key Route docks are completed the United Properties Company will have a line of steamers of its own in operation on the Pa-

cific Ocean to the Orient and along the coasts of North and South America.

### Transit Affairs in New York

The New York, Westchester & Boston Railway, a subsidiary of the New York, New Haven & Hartford Railroad, has proposed to the Public Service Commission, First District, that it be permitted to build the proposed Pelham Bay extension of the subway in the Bronx, taking such a franchise in exchange for the one it holds for building an extension to Throg's Neck from its present line. It offers to build and equip the line with private capital and permit the city to take it over at any time on payment of cost of construction, plus 15 per cent. If the city does not desire to take over the line, the company is ready to operate it in connection with its main line, and make connections with the Lexington Avenue subway when the latter is completed. This would give the New York, Westchester & Boston Railway and the New York, New Haven & Hartford Railroad an entrance into Manhattan independent of the New York Central & Hudson River Railroad.

Mayor Gaynor has been notified that a group of capitalists who can furnish as much as \$500,000,000 are ready to form a syndicate for the construction and equipment of new subways for the city, if such a course can be followed under the law. Former Corporation Counsel William B. Ellison, who has acted as spokesman for this group of men, says: "Those making the proposition would have a first lien on the subway so constructed and equipped. With such a lien protecting them, they seemingly have no hesitation in financing the plan. Two things are precedent, namely, an ability to agree upon the rate of commission of percentage which will go to the builders, and the power of the city to enter into such a contract. Subways so constructed would belong to the city, and their subsequent operation would be in the hands of the city. Municipal construction is thereby assured, and afterward it is for the city to determine whether these subways shall be operated by the municipality or their operation leased to others."

Counsel for the Public Service Commission, First District, has issued a reply to that part of Mayor Gaynor's recent letter to the cities committee of the Legislature which referred to transit franchises. Counsel for the commission says in part:

"The Mayor refers to Sections 74 and 242 of the present charter, but fails to refer to Section 72, which is part of the context, and especially to the last sentence of such section. This section provides that every grant of a franchise of any character to any person or corporation must, unless otherwise provided in this act, be by ordinance of the Board of Aldermen or by resolution of the Board of Estimate and Apportionment or a contract executed by or under the authority of the said Board of Estimate and Apportionment, provided that every such ordinance, resolution or contract shall be subject to the provisions of this act with respect to approval by the Mayor. But this section shall not apply to any franchise, right or contract authorized by the Board of Rapid Transit Commissioners of the City of New York.

"An attempt is being made to pass the proposed charter in its present form, upon the ground of an alleged obscurity in the Rapid Transit Act and the charter in respect of the power of the Mayor. There is no obscurity. Whatever confusion there is arises from a refusal to see the plain distinction between a constitutional consent (similar in scope to those given by thousands of property owners along the lines of rapid-transit railroads) to routes and general plans and a right of approval over contracts and franchises. When the commission adopts a route and general plan, it has to be consented to by the Board of Estimate and Apportionment, by the Mayor, and by one-half in value of abutting property owners, or in lieu of the last consent the determination of commissioners appointed by the Appellate Division of the Supreme Court, confirmed by the court.

"When the commission adopts a contract or franchise for a rapid-transit railroad, it must be approved by the Board of Estimate and Apportionment alone. These are two entirely separate and distinct steps; for example, the



route and general plan of the Lexington Avenue subway was first approved by the Board of Estimate and the Mayor in 1905, and modifications of it in 1907 and 1908. The contracts for its construction, however, were not entered into until last month."

#### San Francisco's Municipal Railway

Commissioner of Public Works Laumeister of San Francisco, who has special charge of the reconstruction of the Geary Street, Park & Ocean Railway as a municipal railway, has issued the following statement regarding the progress being made as follows: "The poles and trolley wires are up from Kearny Street to Thirteenth Avenue on Geary Street and on Tenth Avenue from Geary Street to the Park. The poles for that part of the line from Thirteenth Avenue to Thirty-third Avenue have not arrived from Pennsylvania, but are expected any day. It will take about two weeks to set them up after their arrival, and two days to string the trolley wires. It is expected that five or six weeks will see the construction of the roadbed completed from Fifth Avenue, where the present tracks turn off to the Park, to Thirty-third Avenue. The tearing up of the present tracks from Fifth Avenue to Kearny Street and the laying down of the new rails will take, it is estimated, about four months. The site for the new power house, at Jefferson Street and Jones Street, has been purchased for \$55,000, and the site for the carhouse, at Geary Street and Presidio Avenue, has been contracted for at \$56,000. The preparation of plans for the buildings has begun, but it will probably be about two months before contracts can be let. The plans for the cars are ready for the consideration of the supervisors. It is expected that five months will be sufficient for the building of the cars, although the contract to be let will allow a maximum time limit of 240 days. Plans for the machinery of the carhouse and the ornamental work for the poles are yet to be prepared.

#### Texas Attorney General on Public Service Operations in That State

J. P. Lightfoot, Attorney General of Texas, has submitted to the Legislature of Texas a report on his investigation of the operation of the public service companies in Texas. Referring to electric light and railway properties, the report states in part: "The railway and light companies in Texas which are operated by Stone & Webster, Boston, Mass., are as follows: Dallas Electric Light & Power Company, Dallas Consolidated Electric Street Railway, Rapid Transit Railway and the Metropolitan Street Railway, which are all owned by the Dallas Corporation. In El Paso the El Paso Electric Railway and the Juarez Traction Company are owned by the El Paso Electric Company. The Galveston-Houston Electric Company owns the controlling interest in the Galveston Electric Company, the Houston Electric Company, the Galveston-Houston Electric Railway, and also owns stock in the Suburban Realty Company and the Hotel Galvez at Galveston. The Northern Texas Electric Company owns a controlling interest in the Northern Texas Traction Company, the Dallas & Oak Cliff Electric Railway and the Ft. Worth Southern Traction Company. The several street railway systems of Dallas, Ft. Worth, Galveston, Houston and El Paso are all owned by a holding corporation, which in turn is owned, controlled or managed by the Stone & Webster Management Association, which is a corporation organized by the partnership firm of Stone & Webster.

"The four electric railway companies of Dallas are owned by one corporation, the two lines of El Paso by another, the street railway systems of Galveston and Houston by a third corporation; the Northern Texas Traction Company and the Ft. Worth Southern Traction Company are owned by a fourth corporation. Each of the four corporations is owned and managed by the Stone & Webster Management Association, another corporation. Some of the stock and bonds of all these Texas companies are owned by electric securities companies, which, in turn, are partly owned or controlled by the General Electric Company. It will, therefore, be seen that the electric street railways find control

and domination finally lodged in Stone & Webster and the General Electric Company through subsidiaries."

Mr. Lightfoot concludes his report as follows: "The resolution under the authority of which I have acted made it necessary to examine into the relations of the corporations not only from a legal standpoint, but also in the light of the effect of such concentration upon the industrial and economic welfare of the State and nation. Many of the facts which have been set forth are valuable only for the light which they may throw on the great economic questions involved. It would be difficult for street railways and electric light plants in widely separated cities to enter into competition. Moreover, a great many of these concerns have no permit to do business in Texas, and if the facts set forth show any violation of the law by them it would be rather a violation of the laws of other States or of the federal government. The State courts have no jurisdiction to punish offenses which alone affect interstate or international commerce.

"The operation in Texas by the Stone & Webster syndicate presents several interesting questions for determination. Their movements have always been predicated upon the most eminent legal advice to be had. So far as I have been able to determine the fact, it appears that the city charters of the various cities in which they operate the local street railway systems confer upon the several city governments a wide control over the matter of franchises, the fares to be charged, the character of the equipment, the service to be rendered the public, the hours of labor for the employees and other pertinent and salient matters which might bring such cases within the reasoning of the decision by the Supreme Court of this State in the case of State against Shippers' Compress Company, 95 Texas, 613, in which the court held that under the facts in that case there was no unreasonable restriction of competition between several of the compress companies which were owned by the same corporation."

#### Key Route Basin Improvements at Oakland

Immediate development of the Key Route basin improvements at Oakland, which form a part of the large United Properties Company of California, is assured by a recent loan issue of \$2,500,000 raised through E. H. Rollins & Son. The recently incorporated Oakland Railways takes in the San Francisco, Oakland & San José Railway, the East Shore & Suburban Railway, the Oakland Traction Company and the Oakland Terminal Company. The Oakland Railways was formed primarily to carry on the Key Route basin work and other extensive development plans of the United Properties. The Oakland Railways is capitalized at \$27,000,000.

The plans for the Key Route basin have been made public heretofore. They consist in building a solid mole 1000 ft. wide to replace the present Key Route pier, with trackage to accommodate an increased service. Besides this the basin will be provided with extensive wharfing and terminal facilities for steamships.

A part of the plans is the early completion of the extension of the San Francisco, Oakland & San José Railway into North Berkeley by way of Sacramento Street, connecting at Fifty-third Street and Adeline Street with the present lines to the pier. This work is now under way. Under the franchise terms it must be completed in November. That line will parallel a part of the Southern Pacific Company's new electric system in Berkeley, which is also nearing completion.

**Bridge Dynamited.**—The bridge of the New York, Westchester & Boston Railway, at Mount Vernon, N. Y., which is controlled by the New York, New Haven & Hartford Railroad, was partially wrecked by an explosion on Sept. 3, 1911. No evidence has been found by which arrests could be made.

**Inquiry in Regard to Gasoline Cars.**—The manager of a railway operating in a Central American country informs an American consular officer that the company is considering the purchase of two gasoline cars, capable of seating twenty persons each, for use on its lines, and would like to receive catalogues and proposals from American manufacturers. The gage of the railway is 3 ft.; the maximum grade is 3 per cent, compensated for curvature, and the



roadbed is said to be very good. In applying to the Bureau of Manufacturers, Department of Commerce and Labor, Washington, D. C., for further information in regard to this inquiry the file number, 7284, should be given.

**Bonds to be Sold for Municipal Railroad at Seattle.**—The City Council of Seattle, Wash., has been directed to sell to the highest bidder \$800,000 of bonds, authorized by the voters at the general election held on March 8, 1911, to be issued to acquire the Seattle, Renton & Southern Railway, between Fyar Street, the southern city limits, and Stewart and Blanchard Streets on the north. R. H. Thompson, city engineer, has valued the property of the Seattle, Renton & Southern Railway, and W. R. Crawford, president of the company, has been offered \$386,063 for the property by the Board of Public Works.

**Detroit United Railway's Arbitration Plans.**—The Detroit (Mich.) United Railway has refused to accept Governor Chase Osborn of Michigan as the third arbitrator to settle differences over wages and time between the company and its employees, as it had been agreed in the beginning that no one holding political office or active in party politics would be named by either side. George F. Monaghan, arbitrator for the company, has suggested to Judge Phelan, arbitrator for the employees, the following names: Henry H. Swan, former federal judge; E. H. Doyle, owner the Majestic Building; John Wynn, Jr., real estate; M. J. Murphy, president the Security Trust Company; Charles Murphy, secretary of the S. J. Murphy Company, and Waldo Avery, capitalist.

**Report on Operation of London County Council Tramways.**—In a report of the highways committee on the tramway accounts it appears that the total income from the London County Council Tramways during the year 1910-11 was £2,232,317. The operating expenses amounted to £1,337,769, leaving a surplus of more than £895,000, a figure which would have been £20,000 more had it not been for the deficiency incurred on running the horse trams. Debt, income tax and other charges have had to be set against the surplus, amounting to £662,321, leaving a net surplus of £232,726. Provision for renewals absorbed £129,229, leaving £103,498 to be transferred to the general reserve fund. The renewals fund on March 31, 1911, amounted to £527,263 and the general reserve fund to £176,844. The total number of passengers carried during the year was 504,715,326; and the number of car miles run 48,101,570.

**New York, New Haven & Hartford Railroad Retrenching.**—C. S. Mellen, president of the New York, New Haven & Hartford Railroad, has issued a statement in which he says: "Business is of such a character at the present time and the outlook for the future is such as to require the strictest economy in the handling of the railway. Every one will be laid off that can be. Nothing will be started, and only such work will be continued as will cost more to leave uncompleted than to finish." The road has laid off about thirty enginemen since Aug. 15, 1911. The following improvements will not be delayed: The proposed railway across Hell Gate to connect with the Long Island Railroad and the Pennsylvania Railroad and the New York, Westchester & Boston Railway, money for which has already been provided. The following will be considerably delayed: The Westchester Northern Railroad, from White Plains to Danbury; further electrification east of Stamford; construction of a passenger station at New Haven; electrification in and near Boston.

**Meeting of Illinois Electric Railways Association**

A meeting of the Illinois Electric Railways Association has been called by C. E. Flenner, secretary, to be held at 10 a. m. on Sept. 15, 1911, at the La Salle Hotel, Chicago. The following program has been arranged:

Paper, "Electric Railway Advertising," by Fred G. Buffe, manager publicity department of the Illinois Traction System, Peoria.

Paper, "Traffic Promotion," by Richard Breckinridge, general freight and passenger agent of the Aurora, Elgin & Chicago Railroad, Chicago.

Address, "Publicity," by J. J. Rockwell, manager special service department ELECTRIC RAILWAY JOURNAL.

The members have been invited to make a trip over the single-phase line of the Chicago, Lake Shore & South Bend Railway as the guests of C. N. Wilcoxon, general manager.

**Financial and Corporate**

**New York Stock and Money Markets**

September 6.

Opening prices on Tuesday were low and the declines were attributed to weakness on foreign exchanges as a result of the Moroccan agitation. Recovery was made in the early part of the day and at the close slight gains were registered. Further advances were made on Wednesday, although a slight reaction, took place later in the day. Favorable news of the Moroccan situation and the increased dividend of the Interborough Rapid Transit Company assisted the upward trend of prices. Movement of funds for financing crop requirements is becoming more pronounced and rates on the money market are becoming firmer. Quotations to-day were: Call, 2 1/8 @ 2 3/8 per cent; ninety days, 3 1/4 @ 3 1/2 per cent.

**Other Markets**

Prices advanced to-day in the Philadelphia market, and the entire list was strong throughout the trading. The tone of the market is much better since the holidays.

The same conditions have prevailed on the Chicago Exchange. Chicago Railways 2s made marked advances on to-day's transactions.

Business has shown improvement in Boston. There were only a few prices changes of importance to-day, but the volume of transactions was fair.

The Baltimore market is extremely dull and there is nothing of importance to record.

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

	Aug. 30.	Sept. 6.
American Light & Traction Company (common).....	a296	a300
American Light & Traction Company (preferred).....	a106 1/2	a106 1/2
American Railways Company.....	a45	44 1/4
Aurora, Elgin & Chicago Railroad (common).....	44 3/4	a43
Aurora, Elgin & Chicago Railroad (preferred).....	87	a87
Boston Elevated Railway.....	a127 1/2	a127 1/2
Boston Suburban Electric Companies (common).....	a14	a18
Boston Suburban Electric Companies (preferred).....	a75	a80
Poston & Worcester Electric Companies (common).....	a13	a13
Poston & Worcester Electric Companies (preferred).....	a56	a56
Brooklyn Rapid Transit Company.....	75 1/2	76 3/4
Brooklyn Rapid Transit Company, 1st ref. conv. 4s.....	*86 1/4	S;
Capital Traction Company, Washington.....	a130 1/2	a131
Chicago City Railway.....	a190	a190
Chicago & Oak Park Elevated Railroad (common).....	a3	a3
Chicago & Oak Park Elevated Railroad (preferred).....	a5	a5
Chicago Railways, pteptg., ctf. 1.....	90	a97
Chicago Railways, pteptg., ctf. 2.....	a27 1/4	30 1/4
Chicago Railways, pteptg., ctf. 3.....	a10	a11
Chicago Railways, pteptg., ctf. 4.....	*7	a7
Cincinnati Street Railway.....	*130	*130
Cleveland Railway.....	*100 1/4	a100 1/4
Columbus Railway (common).....	*82	*82
Columbus Railway (preferred).....	*95	*95
Consolidated Traction of New Jersey.....	a76	a76
Consolidated Traction of N. J., 5 per cent bonds.....	a105	a105
Dayton Street Railway (common).....	a25	a25
Dayton Street Railway (preferred).....	a101	a101
Detroit United Railway.....	a70	a70
General Electric Company.....	a153	a153
Georgia Railway & Electric Company (common).....	a165	a161
Georgia Railway & Electric Company (preferred).....	92	92
Interborough Metropolitan Company (common).....	a14 1/2	16
Interborough Metropolitan Company (preferred).....	a43 1/4	45 1/2
Interborough Metropolitan Company (4 1/2s).....	79	80 1/2
Kansas City Railway & Light Company (common).....	a19	a19
Kansas City Railway & Light Company (preferred).....	*41	a44
Manhattan Railway.....	a138	a136 1/2
Massachusetts Electric Companies (common).....	a17 3/4	a19
Massachusetts Electric Companies (preferred).....	a88 1/4	a86 1/2
Metropolitan West Side, Chicago (common).....	*27	*27
Metropolitan West Side, Chicago (preferred).....	*75	*75
Metropolitan Street Railway, New York.....	*15	15
Milwaukee Electric Railway & Light (preferred).....	*110	*110
North American Company.....	a70	70
Northern Ohio Light & Traction Company.....	*50 1/2	*50 1/2
Northwestern Elevated Railway (common).....	*30	*30
Northwestern Elevated Railway (preferred).....	*70	*70
Philadelphia Company, Pittsburgh (common).....	51	51
Philadelphia Company, Pittsburgh (preferred).....	42 1/2	42 1/2
Philadelphia Rapid Transit Company.....	a22 3/4	23
Philadelphia Traction Company.....	a85	85 1/2
Public Service Corporation, 5% col. notes (1913).....	a94	a94
Public Service Corporation, ctf. s.....	a106 1/2	a106 1/2
Seattle Electric Company (common).....	111	a110
Seattle Electric Company (preferred).....	103	103
South Side Elevated Railroad (Chicago).....	95 1/2	95 1/4
Third Avenue Railroad, New York.....	a8	8 1/4
Toledo Railways & Light Company.....	a7	a6 1/2
Twin City Rapid Transit, Minneapolis (common).....	a106	a108 1/2
Union Traction Company, Philadelphia.....	50 1/2	51
United Rys. & Electric Company (Baltimore).....	a18	a18
United Rys. Inv. Co. (common).....	*65	a62
United Rys. Inv. Co. (preferred).....	a35	a35
Washington Ry. & Electric Company (common).....	a44 1/2	a45
Washington Ry. & Electric Company (preferred).....	a89	a90
West End Street Railway, Boston (common).....	a88	88
West End Street Railway, Boston (preferred).....	100	100
Westinghouse Elec. & Mfg. Co.....	a64 1/2	66 1/2
Westinghouse Elec. & Mfg. Co. (1st pref.).....	*114	a120

a Asked. \* List sale.



**Boston (Mass.) Elevated Railway.**—Stockholders of the West End Street Railway at a special meeting held in Boston on Sept. 6, 1911, voted to sell their property, privileges and franchises to the Boston Elevated Railway. The sale takes effect at the expiration of the present lease of the West End Street Railway to the Boston Elevated Railway on June 10, 1922. The terms of sale guarantee a 7 per cent return to holders of common stock of the West End and 8 per cent on preferred stock. A new issue of stock of the Boston Elevated Railway will be exchanged share for share for stock of the West End Street Railway the Boston Elevated Railway had, on June 30, 1911, 4701 stockholders, an increase of 162 over 1910. Of these 4191, or 89 per cent, were residents of Massachusetts, and they owned \$17,829,900 stock, or 89 per cent, of the \$19,950,000 share capitalization. In 1898, a year after organization, Massachusetts shareholders numbered 1541, or 80 per cent of the total, and they owned about 77 per cent of the outstanding capital of \$5,000,000. From Sept. 20, 1909, to June 30, 1910, the stockholders increased by 567, reflecting the distribution of the newly issued shares.

**Columbus, Delaware & Marion Railway, Columbus, Ohio.**—In a suit brought by Eli M. West, receiver of the Columbus, Delaware & Marion Railway, against John G. Webb, president of the company, Mr. Webb testified before W. M. Rockel, special master, at Springfield, Ohio, on Aug. 28, 1911, that he has subscribed for 24,933 shares of stock of the company and that to the best of his knowledge this stock, which had been used as collateral, still remained in his name. The stockholders had never elected a board of directors. The directors had been chosen by voting trustees and had full charge of the financial management and control of the road. Mr. Webb said that a portion of the expenditure of \$600,000 which was authorized by the directors was used to pay off debts of the company, while the remainder was used to purchase the Delaware Street Railway, and to increase the equipment of the Columbus, Delaware & Marion Railway.

**Columbus Railway & Light Company, Columbus, Ohio.**—The meeting of the Columbus Railway, originally set for June 26, 1911, to act upon the proposed increase of the capital stock from \$7,000,000 to \$10,000,000 was again adjourned on Aug. 28, 1911, to permit the completion of the report of the special committee of stockholders which is inquiring into the financial relations of the Columbus Railway and the Columbus Railway & Light Company. The committee appointed by the chairman of the meeting held June 26, 1911, to investigate the affairs and condition of the Columbus Railway submitted the following partial report: "After appointment the committee organized by electing D. M. Massie chairman and John A. Poland secretary, and proceeded to consider the question of expert assistance. After due investigation the committee recommended the employment of Ernst & Ernst, certified public accountants of Cleveland, and the employment of Julian Griggs, Columbus, as engineer, with the understanding that he should secure the assistance of Prof. E. A. Hitchcock. The directors of the Columbus Railway arranged to employ the experts above named to assist in the investigations. Ernst & Ernst began work July 17, and from that date have had constantly three or more men employed in auditing the accounts of the Columbus Railway, and have recently notified us that it will require until Sept. 11, 1911 for them to complete their labors. Messrs. Griggs and Hitchcock began work on July 18, and we have this day received their complete report, but have not yet had time to give it any consideration. In view of these facts, we ask that we be given further time to complete our work and formulate our report, and suggest that a resolution be adopted adjourning this meeting until Sept. 25, 1911, at which time we trust we shall be able to submit a full report."

**Interborough Rapid Transit Company, New York, N. Y.**—The directors of the Interborough Rapid Transit Company on Sept. 6, 1911, voted to increase the dividend on the company's stock from 9 per cent to 10 per cent per annum by declaring an extra dividend of 1 per cent. Of the \$35,000,000 of stock on which the increased dividend will be paid \$33,912,800 is in the treasury of the Interborough-Metropolitan Company, having been exchanged by the holders for the 4½ per cent bonds on the basis of \$200 in bonds for each \$100

of stock. Theodore P. Shonts, president of both companies, made the following explanatory statement: "On June 2, 1910, a resolution was passed by the directors of the Interborough-Metropolitan Company appropriating \$300,000 annually out of any surplus income in the hands of the company after the payment of interest and taxes upon its obligations to the acquisition of its 4½ per cent collateral trust bonds. These bonds are to be acquired in the open market at not exceeding par and interest and to be turned in to the trustee of the mortgage, so as to operate as a sinking fund. The time now having come when the Interborough Rapid Transit Company has felt justified in increasing its dividend beyond 9 per cent per annum heretofore paid, the Interborough-Metropolitan Company will be in a position to put in effect the declared policy of the company with respect to its 4½ per cent bonds. Inasmuch as these bonds, when turned in to the trustee as additional security for the mortgage, cannot, under the terms of the resolution of June 2, 1910, be released, and will continue to draw interest, which must also be devoted to sinking fund purposes, a sum of over \$40,000,000, or a larger amount if the bonds can be secured at less than par, will have been accumulated before their expiration for the purpose of paying off the \$67,825,000 4½ per cent bonds outstanding. Contemporaneously, by reason of the paying off of the 5 per cent bonds of the Interborough Rapid Transit Company by the sinking fund provided for by that mortgage, the equipment of that company, now valued at \$38,000,000, will have been released from that mortgage and the assets of the Interborough-Metropolitan Company will have been enhanced by a corresponding increase in the value of its stock in the Interborough Rapid Transit Company. There will remain the lease of the Manhattan Railway, which has been earning at a rate approximately \$1,400,000 surplus, to the Interborough Company."

**International Transit Company, Sault Ste. Marie, Ont.**—A. E. Ames & Company, Toronto, Ont., are offering for sale a block of 5 per cent first mortgage serial gold bonds of the International Transit Company. The total issue is \$300,000 and the bonds are dated July 1, 1910, \$20,000 due annually on July 1 of each year until 1925. The principal is guaranteed by the Lake Superior Power Company. The National Trust Company, Ltd., Toronto, Ont., is trustee of the issue.

**Metropolitan Street Railway, New York, N. Y.**—Judge Lacombe, in an opinion filed in the United States Circuit Court on Aug. 30, 1911, affirmed the report of William L. Turner, special master, holding that the lease of the various city surface lines, dated Feb. 1, 1902, between the Metropolitan Street Railway and the New York City Railway, was no longer in effect after Sept. 24, 1907, with the amendment, however, that the date of the expiration of the lease should be changed to Oct. 1, 1907. In all other respects the findings are approved. They concern the accounting between the Metropolitan Street Railway and the New York City Railway. Judge Lacombe says that the dual receivership did not exist on Sept. 24, 1907. He adds: "It began when the application of the Metropolitan Street Railway was granted, Oct. 1, 1907. It is thought, therefore, that the special master erred in finding that the lease should be deemed to have been no longer in effect after Sept. 24, 1907; the date should have been Oct. 1, 1907, and the special master's report should be corrected accordingly."

**New Hampshire Traction Company, Haverhill, Mass.**—Subsidiary companies under the New Hampshire Traction Company have petitioned for additional issues of securities to retire part of their floating indebtedness, as follows: Haverhill & Southern New Hampshire Street Railway, \$5,000 stock at par and \$5,000 bonds; Haverhill & Amesbury Street Railway, \$400,000 bonds and 3600 shares stock at par; Lawrence & Methuen Street Railway, \$35,000 bonds and 1650 shares at par.

**Public Service Corporation of New Jersey, Newark, N. J.**—The \$4,000,000 of 5 per cent three-year collateral gold notes of the Public Service Corporation of New Jersey, dated Oct. 1, 1910, have been called for payment at par and interest at the office of the Fidelity Trust Company, Philadelphia, Pa., on Oct. 2, 1911. The notes were provided for by the sale of general mortgage 5 per cent bonds in March, 1911.



**Sherbrooke Railway & Power Company, Sherbrooke, Que.**—The stockholders of the Sherbrooke Railway & Power Company have authorized an issue of \$300,000 of additional consolidated first mortgage 5 per cent bonds in connection with the recent purchase of the Eastern Townships Electric Company, the Lennoxville Light & Power Company and the Hanstead Electric Company and to extend the distribution systems of these companies. McCuaigh Brothers & Company have been authorized to offer \$150,000 of the bonds at 95 and interest, carrying a bonus of 40 per cent in common stock.

**MONTHLY ELECTRIC RAILWAY EARNINGS**

BANGOR RAILWAY & ELECTRIC COMPANY.					
Period.	Gross Revenue.	Operating Expenses.	Net Revenue.	Fixed Charges.	Net Income.
1 m., July, '11.....	\$55,677	*\$26,809	\$28,868	\$13,056	\$15,812
1 " " " '10.....	54,007	*24,775	29,232	11,921	17,311
CHATTANOOGA RAILWAY & LIGHT COMPANY.					
1 m., July, '11.....	\$84,175	*\$50,362	\$33,813	\$19,870	\$13,943
1 " " " '10.....	88,412	*46,501	41,911	18,601	23,310
7 " " " '11.....	530,130	*307,385	222,745	137,466	85,279
7 " " " '10.....	496,840	*292,871	203,969	127,433	76,536
COMMONWEALTH POWER, RAILWAY & LIGHT COMPANY.					
1 m., July, '11.....	\$437,192	*\$261,404	\$175,788	\$106,104	\$69,684
1 " " " '10.....	421,157	*239,973	181,174	100,655	80,529
7 " " " '11.....	3,066,276	*1,765,592	1,300,684	725,732	574,952
7 " " " '10.....	2,843,801	*1,607,969	1,235,832	718,589	517,243
DETROIT UNITED RAILWAY.					
1 m., July, '11.....	\$974,078	\$616,283	\$357,794	\$277,377	\$180,418
1 " " " '10.....	950,679	986,726	364,553	180,797	283,757
7 " " " '11.....	3,827,578	3,642,573	2,185,004	2,234,634	950,350
7 " " " '10.....	3,369,414	3,357,511	2,011,904	1,153,854	856,050
EAST ST. LOUIS & SUBURBAN COMPANY.					
1 m., July, '11.....	\$195,688	*\$109,404	\$86,284	\$45,453	\$40,831
1 " " " '10.....	210,844	*111,279	99,565	45,382	54,183
7 " " " '11.....	1,287,407	*736,239	551,168	317,604	233,564
7 " " " '10.....	1,330,197	*746,919	583,278	316,324	266,954
GRAND RAPIDS RAILWAY COMPANY.					
1 m., July, '11.....	\$107,072	*\$58,523	\$48,549	\$15,008	\$33,541
1 " " " '10.....	113,005	*54,186	58,819	15,291	43,528
7 " " " '11.....	660,432	*378,988	281,444	105,346	176,098
7 " " " '10.....	643,828	*346,804	297,024	106,265	190,759
LEWISTON, AUGUSTA & WATERVILLE STREET RAILWAY.					
1 m., July, '11.....	\$60,340	*\$30,205	\$30,135	\$14,390	\$15,745
1 " " " '10.....	60,443	*30,906	29,537	13,134	16,403
PORTLAND RAILWAY, LIGHT & POWER COMPANY.					
1 m., July, '11.....	\$543,704	*\$258,938	\$284,766	\$130,660	\$154,106
1 " " " '10.....	490,724	*237,378	253,346	116,507	136,839
7 " " " '11.....	3,658,516	*1,763,074	1,895,442	873,484	1,021,958
7 " " " '10.....	3,136,336	*1,484,700	1,651,636	795,724	855,912
ST. JOSEPH RAILWAY, LIGHT, HEAT & POWER COMPANY.					
1 m., July, '11.....	\$92,375	*\$60,202	\$32,173	\$19,239	\$12,934
1 " " " '10.....	90,928	*51,289	39,639	18,274	21,365
7 " " " '11.....	622,697	*382,202	240,495	134,713	105,782
7 " " " '10.....	584,942	*350,290	234,652	127,717	106,935
TOLEDO RAILWAYS & LIGHT COMPANY.					
1 m., July, '11.....	\$244,539	\$152,092	\$92,447	\$79,052	\$13,395
7 " " " '11.....	1,789,641	1,118,649	669,992	554,381	115,611
UNION RAILWAY, GAS & ELECTRIC COMPANY.					
1 m., July, '11.....	\$244,931	*\$141,736	\$103,195	\$62,924	\$40,271
1 " " " '10.....	232,318	*134,084	98,234	59,480	38,754
7 " " " '11.....	1,763,387	*1,039,702	723,685	426,073	297,612
7 " " " '10.....	1,663,338	*996,283	667,055	407,500	259,555

\*Includes taxes.

**Dividends Declared**

- Binghamton (N. Y.) Railway, 3 per cent.
- Brockton & Plymouth Street Railway, Brockton, Mass., \$3, preferred.
- Connecticut Valley Street Railway, Greenfield, Conn., 3 per cent, preferred.
- Metropolitan West Side Elevated Railway, Chicago, Ill., quarterly, 3/4 of 1 per cent., preferred.
- Sao Paulo Tramway, Light & Power Company, Sao Paulo, Brazil, 2 1/2 per cent, quarterly.
- Second & Third Streets Passenger Railway, Philadelphia, Pa., \$3.
- West Penn. Traction Company, Connellsville, Pa., quarterly, 1 per cent, common.

Hearings on minor matters of street railway interest were held on Sept. 5, 1911, before the Massachusetts Railroad Commission. No testimony was taken, but only the presentation of their case by the several petitioners. The Bay State Street Railway asked to relocate tracks in Wakefield and in Rockport, and the West End Street Railway petitioned for relocations in Boston that involved merely the widening of the space between tracks in certain places. Plans for track changes at the Dudley Street station of the Boston Elevated Railway were submitted for approval.

**Traffic and Transportation**

**Accident Statistics of Philadelphia Rapid Transit Company**

A comparison of accident statistics on the lines of the Philadelphia (Pa.) Rapid Transit Company for four years, from 1907 to 1910, made by the Philadelphia News Bureau, shows that while the proportion of accidents is still high, substantial results have been obtained. In 1907 the company spent nearly 10 per cent of its transportation revenue from surface lines in settling accident claims arising on those lines. By 1910 this proportion had been reduced to 6.95 per cent. In all the comparisons herewith given accidents attributable to strike conditions are omitted. Accidents due to alighting were reduced from 5033 in 1907 to 4596 in 1910, while accidents occurring in boarding were reduced from 3998 to 2787. Both of these classes of accidents were specially reduced by the use of pay-within cars. The number of persons killed from all causes, including passengers, employees and others, was reduced from 113 to 70, or 40 per cent.

The following table compares the number of fatal and non-fatal accidents to persons (excluding cases of property damage alone) for the four years, together with the amounts paid in damages in each year:

	1907.	1908.	1909.	1910.
Persons killed.....	113	98	55	70
Persons injured.....	19,343	11,598	6,694	7,240
*Damages paid.....	\$1,780,839	\$1,078,407	\$1,063,643	\$1,149,261
Ratio to trans. revenue.....	9.88	6.00	6.19	6.95

\*Including property damage from accidents.

The payments in 1910 doubtless included considerable amounts representing injuries happening a number of years earlier. As the tendency of accidents is shown to be downward, the real cost to the company of the accidents actually happening in 1910 will probably be appreciably less than the amount actually paid out in that year. How Philadelphia compares with other cities in accidents on its surface lines is shown by the tables given below. The first shows the actual number of fatal and non-fatal accidents and the amounts paid in damages in each city in 1910. The New York figures are said to include Manhattan and Bronx, but the names of the companies considered are not mentioned. The article does not say whether one or more companies are included in the Brooklyn statistics.

	New York.	Brooklyn.	Boston.	Philadelphia.
Persons killed.....	86	60	37	70
Persons injured.....	14,643	8,653	3,112	7,240
Damage payments.....	\$1,682,990	\$884,878	\$840,277	\$1,149,261

The relative frequency of accidents is most accurately shown by a comparison of the number of passengers carried per accident. The following table shows that of the four cities the record of Philadelphia in regard to fatal accidents is the most unfavorable.

	New York.	Brooklyn.	Boston.	Philadelphia.
Passengers carried.....	6,874,623	7,461,856	10,705,100	5,700,370
Per persons killed.....	40,375	51,741	127,278	55,084

In the matter of both fatal and non-fatal accidents per car mile, Philadelphia stands second. The comparison, however, is said not to be so accurate as the foregoing, since the use of smaller cars in Philadelphia increases the car mileage in proportion to the traffic above that of other cities.

	New York.	Brooklyn.	Boston.	Philadelphia.
Car miles.....	801,869	924,258	1,381,830	952,646
Per persons killed.....	4,709	6,409	16,429	9,210

**Uniforms for Division Superintendents, Inspectors and Road Officers.**—After Oct. 1, 1911, all division superintendents, inspectors and road officers of the United Railways, St. Louis, Mo., will be required to wear uniforms while on regular duty.

**Electric Railway Information Bureau in San Francisco.**—The San Francisco, Oakland & San José Railway (the Key Route) and the Oakland Traction Company have opened in the Monadnock Building, San Francisco, Cal., a bureau of information for the benefit of tourists and sightseers.

**Fare Inquiry in Los Angeles.**—The Board of Public Utilities of Los Angeles, Cal., has adopted a recommendation asking the Council to pass an ordinance authorizing the board to inquire into the reasonableness of the rates of fare charged by the street railways which operate in Los Angeles.



**Accident in Indiana.**—A car on the Logansport branch of the Indiana Union Traction Company which is said to have been overdue struck a traction engine of the American Construction Company at Thirty-eighth Street, Indianapolis, Ind., on Aug. 29, 1911. Six passengers and the motorman of the car were injured.

**School Children to be Instructed How to Avoid Railway Accidents.**—E. C. Carpenter, claim agent of the Indiana Union Traction Company, Anderson, Ind., has prepared a pamphlet on the subject of how to avoid accidents which has been placed in the hands of the teachers, with instructions to read the same to the children.

**Woman Charged with Attempting to Wreck Lake Shore Cars.**—Mary Ermer, nineteen years old, of Dover Bay, Ohio, is under arrest on the charge of having made several attempts to wreck cars on the Lake Shore Electric Railway. On Aug. 13 four ties were found across one of the tracks by a motorman of a car going in the opposite direction.

**Collision on Long Island Railroad.**—More than thirty persons were injured in a rear-end collision on the Long Island Railroad on Sept. 4, 1911, in which a train drawn by a steam locomotive crashed into an electric train from the rear at Hammel's Station, Rockaway Beach, while the passengers on the electric train were being discharged.

**Annual Report of the Montreal Street Railway Mutual Benefit Association.**—At the annual meeting of the members of the Montreal Street Railway Mutual Benefit Association the eighth annual report was submitted and showed the following financial standing: Contributions from the company, \$17,102; fees and dues from members, \$15,391; proceeds from picnic and interest on investments and bank deposits, \$12,363; total revenue, \$44,856; expenses, \$28,927; surplus, \$15,929.

**Belt Line Suggested in Pittsburgh.**—J. D. Callery, president of the Pittsburgh (Pa.) Railways, has promised to take up with the engineers of the company the suggestion that a belt line of cars be established to connect and encircle the downtown districts of Pittsburgh and the North Side. The plan includes a system of transfers that will place either of the two large downtown business sections within reach of persons from all parts of the city for a 5-cent fare.

**Finding on Maine Accident.**—The Railroad Commission of Maine has rendered its finding in the case of the collision between the regular car and a special car on the Rockland, Thomaston & Camden Street Railway at Warren on Aug. 8, 1911, in which two persons were killed. The commission says: "The accident resulted from the confusing and improper manner in which the meeting order was given, but the accident, nevertheless, might have been avoided by the exercise of reasonable care and prudence on the part of those operating and controlling the movements of the special car. We believe that the safety of the traveling public requires that such instructions and orders shall be given in every case to both the conductor and motorman."

**Transfer Interchange Question in Washington, D. C.**—On Sept. 1, 1911, the Capital Traction Company was given ten days by the Supreme Court for the District of Columbia in which to appear in court on a writ of subpoena issued in the suit instituted by the Baltimore & Washington Transit Company, the petition charging that the defendant corporation refused to honor transfers of the complaining traction line, in violation of the law. The Capital Traction Company, in correspondence with the receiver, A. L. Shreve of the Baltimore & Washington Transit Company, denied that any obligation in law rested upon the company to exchange transfers. The petition prays that the Capital Traction Company be required immediately to make reciprocal transfer arrangements with the Baltimore & Washington Transit Company at Fourteenth Street and Kennedy Street, and for such other and further relief as may be necessary, or to the court may seem proper.

**Advertising in Chattanooga.**—Reference has been made previously in the *ELECTRIC RAILWAY JOURNAL* to the vigorous advertising campaign being conducted by the Chattanooga Railway & Light Company, Chattanooga, Tenn., to create new business. The company is using large space in the Sunday papers in Chattanooga. One of the most striking

of the company's recent advertisements follows: "Where the sun shines, the birds sing and the trees beckon you and the kiddies, take your family—the wife and the tots—for a day and an evening in the open, away from the dust, the grime and the noise of the city and the monotony of the streets. Pack your family lunch in a basket and go to East Lake or the Mountain. They will enjoy the novelty—they will come home with a sparkle in the eye and a glow on the cheek—they will sleep better and you will feel better because of their enjoyment." Lookout Mountain, one of the famous spots in the South, is close to Chattanooga and is connected with the city by the lines of the company.

**Passenger and Freight Tariff Changes of the British Columbia Electric Railway, Ltd.**—The traffic department of the British Columbia Electric Railway, Vancouver, B. C., announces a general reduction of its passenger rates over the interurban lines connecting Vancouver and New Westminster, effective on Sept. 1, 1911. The revised rates do not apply to the Burnaby interurban line, however, as this line is operated under a Dominion railway charter, but the revised rate will go into effect as soon as the formal permission of the Railway Commission can be obtained. The new rate from Vancouver to New Westminster is 25 cents single fare and 50 cents round trip. Proportionate reductions are made covering all points on the lines where interurban rates prevail. The company has also recently put in force a reduced freight tariff on its South Fraser Valley extension which covers the 76-mile stretch between Vancouver and Chilliwack and connects the rich agricultural district lying on the south side of the Fraser River with the British Columbia coast cities.

**Question of Abandonment in Fishkill.**—The Public Service Commission of the Second District of New York has denied the application of the Fishkill Electric Railway, Fishkill-on-Hudson, N. Y., for the approval of an abandonment of a portion of its road in Fishkill. The petition is denied upon the condition that Fishkill enter into an agreement which will save and indemnify the company from all expense in connection with the laying of a brick pavement between its rails and 2 ft. on each side of its tracks from the post office to the easterly terminus of the line, and that the village shall pay all the expense occasioned in the laying of such pavement, except that the railway company shall pay for any rails and ties. If the village does not make the agreement provided for the commission will approve of the abandonment of the line from the post office to the easterly terminus of Fishkill. In the building of a new State road through Fishkill it became necessary to pave the streets along a large portion of the electric railway. The company contended that to pay the usual cost in connection with paving along street railways would practically bankrupt the company and asked to have a portion of its line abandoned. After several hearings the commission secured an agreement from the village to pave the entire street from the post office to the easterly terminus of the railroad without expense to the street railway.

**Hearing on Commutation Rates in New Jersey.**—The New Jersey Board of Utilities Commissioners heard testimony and argument in Chancery Chambers, Jersey City, recently in the cases of commuters who object because railroad companies refuse to sell commutation tickets to Jersey City and Hoboken, which are connected with New York by ferry. A Jersey City lawyer testified that the ticket agent at Ramsey, N. J., refused on Aug. 2 to sell him a commutation ticket to Jersey City, saying he had been directed not to sell tickets of any kind to that place. Testimony that other roads had refused to sell commutation tickets to Jersey City was also given. Counsel for the various railroads made the point that the rates to New York are justified by the great volume of traffic and that Jersey City and other municipalities in Hudson County profit by the rates because they are so near New York. D. M. Cooke, general traffic manager of the Erie Railroad, said that the circumstances and conditions which surround the passenger traffic between Jersey City and points elsewhere in New Jersey are different from those which surround New York commutation traffic and do not justify the maintenance of such a low basis of rates as applies to New York commutation traffic. Passengers to and from Jersey City can purchase and use New York tickets. The commission was to continue the hearing on Sept. 7, 1911.



### Personnel of Chicago Elevated Railways

The complete personnel of the Chicago elevated railways has been announced. In the *ELECTRIC RAILWAY JOURNAL* of Aug. 12, 1911, the election was noted of F. A. Delano to the board of governors of the company, of Britton I. Budd as president of the company and E. C. Noe as general superintendent of the company. A biography and portrait of Mr. Budd were published at that time. The announcement now made covers the other officers of the company, of whom brief biographies are presented herewith. The Chicago Elevated Railways controls about 150 miles of road and operates more than 1200 cars. The operating headquarters of the company are on the tenth floor of the Royal Insurance Building, Chicago, where the headquarters of the Metropolitan West Side Elevated Railway were located. The offices of the treasury and accounting departments of the company are at 4430 Evanston Avenue, where the headquarters of the Northwestern Elevated Railroad were located. It was expected that all the officers would be located in the new quarters by Sept. 9.

Elzer C. Noe, general manager and purchasing agent of the Northwestern Elevated Railroad and general manager and purchasing agent of the Chicago & Oak Park Elevated Railroad for several years, has also been appointed general manager of the South Side Elevated Railroad and the Metropolitan West Side Elevated Railway. He was born at Western Star, Summit County, Ohio, on March 25, 1862, and began work as an engineer in a flour mill in Cleveland, Ohio. Shortly after the Brush arc lighting exhibition in 1879, Mr. Noe became identified with electrical work. In 1882 he became connected with the Western Edison Light Company, Chicago, and served with that company and the General Electric Company until 1903, when he was appointed general superintendent of the Northwestern Elevated Railroad and the Chicago & Oak Park Elevated Railroad.



E. C. Noe

Garrett T. Seeley, formerly vice-president and general manager of the South Side Elevated Railroad, was appointed assistant general manager of the South Side Elevated Railroad, Metropolitan West Side Elevated Railway and Northwestern Elevated Railroad, effective Sept. 4. Mr. Seeley was graduated from the University of Illinois in 1899 and then spent one year in Oklahoma as a topographer for the Santa Fé Railroad. During 1900 and 1901 he was in the engineering department of the Chicago & Western Indiana Railroad engaged in track elevation work. In 1901 he was appointed engineer of maintenance of way of the South Side Elevated Railroad and in March, 1909, was appointed assistant to the general manager, with the heads of the operating organization reporting to him as representative of the general manager. In January, 1910, Mr. Seeley was elected second vice-president and general manager of the South Side Elevated Railroad.

Mr. P. D. Sexton, formerly secretary and treasurer of the Metropolitan West Side Elevated Railway, Chicago, Ill., has been appointed secretary of the Metropolitan West Side Elevated Railway, South Side Elevated Railroad and Northwestern Elevated Railroad.

W. V. Griffin, formerly secretary and treasurer of the Northwestern Elevated Railroad and the Chicago & Oak Park Elevated Railroad, has also been appointed treasurer of the South Side Elevated Railroad and Metropolitan West Side Elevated Railway.

E. D. Adams, formerly secretary and treasurer of the South Side Elevated Railroad, has been appointed assistant secretary and assistant treasurer of the Metropolitan West Side Elevated Railway, South Side Elevated Railroad, and Northwestern Elevated Railroad. Mr. Adams has been secretary and treasurer of the South Side Elevated Railroad

since Dec. 1, 1910, and for fifteen years previous to his railway experience he was assistant manager of the Auditorium Theatre, Chicago.

Thaddeus D. MacRae, formerly auditor Metropolitan West Side Elevated Railway, was also appointed auditor of the Northwestern Elevated Railroad and the South Side Elevated Railroad, effective Sept. 4. Mr. MacRae was born at Jackson, La., on Feb. 7, 1865, and was educated at the United States Military Academy. He entered railway service as a clerk in the local office of the Chicago & Northwestern Railway at Cedar Rapids, Ia., and served from Oct. 1, 1888, to Nov. 1, 1890, as clerk in the freight auditor's office of the Burlington, Cedar Rapids & Northern Railway; from Oct. 1, 1890, to Dec. 31, 1894, as traveling auditor, and from Jan. 1, 1895, to July 19, 1902, as chief accountant in the general auditor's office of that road. From July 19, 1902, to Oct. 1, 1902, he was a clerk in the controller's office of the Chicago, Rock Island & Pacific Railway at Chicago, closing the books and accounts of the Burlington, Cedar Rapids & Northern Railway. From Oct. 1, 1902, to Feb. 25, 1905, he was clerk in the office of the auditor of disbursements of the same road. On March 15, 1905, Mr. MacRae was appointed auditor of the Metropolitan West Side Elevated Railway.

M. I. Feron, formerly superintendent of transportation of the Metropolitan West Side Elevated Railway, has been appointed general superintendent of transportation of the Metropolitan West Side Elevated Railway, Northwestern Elevated Railroad and South Side Elevated Railroad. Mr. Feron has been connected with the Metropolitan West Side Elevated Railway about seventeen years. He was previously for several years with the Chicago & Northwestern Railroad as yardmaster. Mr. Feron entered the employ of the Metropolitan West Side Elevated Railway as switchman and since has served as dispatcher, trainmaster and superintendent.

E. F. Schaaf, roadmaster of the Northwestern Elevated Railroad, Chicago, Ill., has been appointed superintendent of transportation of that property. Mr. Schaaf began railway service with the Chicago & Oak Park Elevated Railway when the motive power of the road was changed from steam to electricity, and had charge of the electrical equipment of the cars of that road for five years. In 1900 he became connected with the Northwestern Elevated Railroad as shop foreman in charge of electrically equipping the Northwestern cars. In 1903 he was appointed superintendent of motive power and in 1904 was given the title of roadmaster and put in charge of the track, roadway and electrical departments. During the last five or six years Mr. Schaaf has assisted in the transportation department and now assumes charge of that department for the Northwestern Elevated Railroad, which hereafter is to be operated as a part of the Chicago Elevated Railways.

John Feldhake has been reappointed superintendent of transportation of the South Side Elevated Railroad, Chicago, Ill. Mr. Feldhake began railway service as a telegraph operator on the Cincinnati & Northern Railroad and later served with the Lake Erie & Western Railroad. From 1889 to 1892 he was connected with the transportation department of the Kings County division of the Brooklyn Elevated Railroad and then for a short time was with the Long Island Railroad. In 1893 he began service as a ticket agent with the South Side Elevated Railroad and occupied successively the positions of train dispatcher, trainmaster and superintendent.

C. E. Patten, since 1908 general agent of the Metropolitan West Side Elevated Railway, has also been appointed general agent of the South Side Elevated Railroad and Northwestern Elevated Railroad. In 1888 he began his railroad service as a telegraph operator with the Illinois Central Railroad. He next became connected with the Chicago, Burlington & Quincy Railroad, serving in the general office, then as dispatcher for the Chicago terminals and later as chief clerk to the general superintendent. In 1905 he entered the service of the Metropolitan West Side Elevated Railway as secretary to the president, and in 1908 he was appointed general agent in charge of all the ticket agents, station facilities, promotion of traffic, advertising, real estate and the handling of leases and contracts. During Mr. Patten's connection with the Metropolitan West Side Elevated



Railway that company was successful in locating a number of very large industrial plants at the ends of its branches, thus assisting materially in building up traffic for the rush hours to move in the opposite direction from that traffic which is handled to and from the central business district at morning and night.

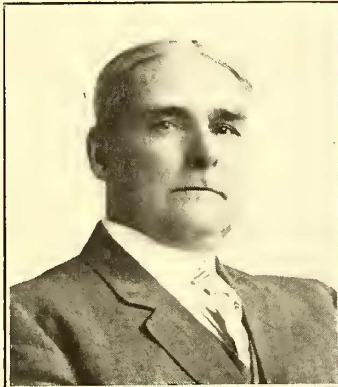
C. M. Mock, formerly chief engineer and assistant general manager of the Northwestern Elevated Railroad and chief engineer of the Chicago & Oak Park Elevated Railroad, has been appointed chief engineer of the Metropolitan West Side Elevated Railway, South Side Elevated Railroad and Northwestern Elevated Railroad, and retains the title of chief engineer of the Chicago & Oak Park Elevated Railroad. Mr. Mock was graduated from Purdue University in 1888 as a mechanical and civil engineer. For some time thereafter he was engaged in railroad and public works engineering in the West and with the Columbian Exposition in Chicago. He entered the service of the Northwestern Elevated Railroad as assistant engineer in 1897 and later was made assistant chief engineer and then

B. J. Fallon, formerly assistant general manager Metropolitan West Side Elevated Railway, has been appointed engineer of maintenance of way of the Metropolitan West Side Elevated Railway, Northwestern Elevated Railroad and the South Side Elevated Railroad. Mr. Fallon graduated from De La Salle Institute, Chicago, in 1890 and began work with the Chicago, Burlington & Quincy Railroad, in whose service he spent eight and one-half years, during which time he served as rodman, assistant maintenance engineer, locating and constructing engineer, division engineer Chicago division, assistant engineer and superintendent of track elevation at Chicago. In 1907 Mr. Fallon was appointed engineer of maintenance of way of the Metropolitan West Side Elevated Railway and in March, 1910, he was made assistant general manager of that property.

H. A. Johnson, formerly master mechanic of the Metropolitan West Side Elevated Railway, has also been appointed master mechanic of the Northwestern Elevated Railroad and South Side Elevated Railroad. Mr. Johnson was graduated from Purdue University with the degree of



G. T. Seeley



T. B. MacRae



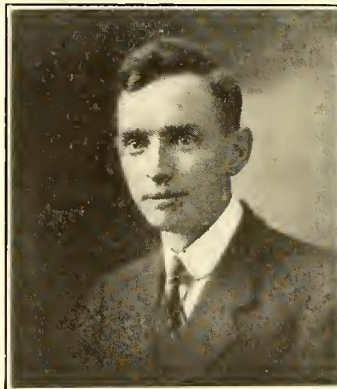
M. I. Feron



C. E. Patten



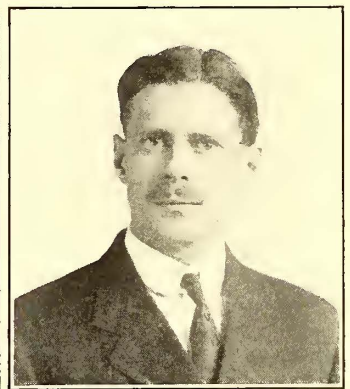
C. M. Mock



E. J. Blair



B. J. Fallon



H. A. Johnson

chief engineer of the Northwestern Elevated Railroad and Union Elevated Loop and the Chicago & Oak Park Elevated Railway, succeeding Mr. C. V. Weston, who became president of the South Side Elevated Railroad. In 1907 Mr. Mock was appointed assistant general manager of the Northwestern Elevated Railroad, retaining his position as chief engineer of that company and the Chicago & Oak Park Elevated Railway, which three positions he held at the time of the consolidation.

E. J. Blair, electrical engineer of the Metropolitan West Side Elevated Railway, has also been appointed electrical engineer of the Northwestern Elevated Railroad and the South Side Elevated Railroad. Mr. Blair was graduated from Cornell University in 1905 and began work in the shops of the Metropolitan West Side Elevated Railway. In 1906 he was transferred to the construction division of the engineering department, in 1907 to the maintenance-of-way department and in 1908 to the power department, in which he was given charge of the lines, cables, substations and storage batteries. Mr. Blair was appointed electrical engineer of the Metropolitan West Side Elevated Railway in 1910.

mechanical engineer and immediately thereafter entered the service of the Chicago, Burlington & Quincy Railroad, specializing in locomotive work. He has been connected with the Metropolitan West Side Elevated Railway since 1908, serving in the inspection and electrical departments, the armature shop, power house and in the drafting department. More recently he was appointed superintendent of motive power and equipment and during the construction of the Douglas Park extension of the Metropolitan West Side Elevated Railway he served as engineer in charge.

E. E. Kretschmer has been appointed purchasing agent of the Metropolitan West Side Elevated Railway, South Side Elevated Railroad and Northwestern Elevated Railroad. Mr. Kretschmer has been chief clerk to Mr. E. C. Noe, general manager of the Northwestern Elevated Railroad, since 1893, and previous to that time was connected with the General Electric Company of Chicago.

P. F. McCall has been appointed general storekeeper of the South Side Elevated Railroad, Metropolitan West Side Elevated Railway and Northwestern Elevated Railroad. Mr. McCall was formerly stock clerk and storekeeper for one of the large Chicago packing houses. About three



years ago he entered the service of the Metropolitan West Side Elevated Railway as stock clerk and shortly thereafter was appointed storekeeper.

Dan Sheehan, roadmaster of the Metropolitan West Side Elevated Railway, Chicago, Ill., has also been appointed roadmaster of the Northwestern Elevated Railroad and South Side Elevated Railroad. Previous to his connection with the Metropolitan West Side Elevated Railway, which began in April, 1911, Mr. Sheehan served for a long period with the North American Railway Construction Company as construction superintendent of several of the elevated railways in Chicago. He had charge of the erection of the steel structure for the four-track main line of the Northwestern Elevated Railroad, the third-track reconstruction of the South Side Elevated Railroad and the construction of the Logan Square branch of the Metropolitan West Side Elevated Railway.

## Personal Mention

**Mr. A. J. Davis**, formerly treasurer of the Alton, Jacksonville & Peoria Railway, Alton, Ill., has been elected assistant secretary of the company.

**Mr. L. W. Carlisle**, formerly chief clerk of the Tampa (Fla.) Electric Company, has been appointed assistant treasurer of the Pensacola (Fla.) Electric Company.

**Mr. J. C. McGrath**, formerly secretary of the Alton, Jacksonville & Peoria Railway, Alton, Ill., has been elected vice-president of the company to succeed Mr. C. A. Caldwell.

**Mr. Royal H. Weller**, formerly of the legal department of the Metropolitan Street Railway, New York, N. Y., has been appointed a deputy assistant district attorney of New York.

**Mr. C. H. Rowland**, heretofore general manager of the Center & Clearfield Street Railway, Philipsburg, Pa., has been elected president of the company to succeed Mr. James Passmore.

**Mr. Cary N. Weisiger, Jr.**, of St. Louis, Mo., has been elected president of the Alton, Jacksonville & Peoria Railway, Alton, Ill., to succeed Mr. Edgar M. Davis, who has been elected secretary and treasurer of the company.

**Mr. Fleming Ramsaur** has resigned as division engineer of the Piedmont Traction Company, Piedmont, N. C., to become engineer in charge of the Coquitlam dam construction for the Vancouver Power Company, Ltd., Coquitlam, B. C.

**Mr. W. M. Cutlip**, who was recently elected secretary and treasurer of the Muskogee (Okla.) Electric Traction Company, has also been appointed auditor of the company to succeed Mr. A. A. Coupland, whose retirement from the company to enter into business for himself is noted elsewhere in this column.

**Mr. A. A. Coupland**, who recently assumed the duties of auditor of the Muskogee (Okla.) Electric Traction Company, as previously noted in the *ELECTRIC RAILWAY JOURNAL*, resigned from the company, effective Aug. 15, 1911, to enter business for himself as a member of the Dewel-Coupland Company, with offices in Flynn-Ames Building, Muskogee, Okla.

**Mr. W. F. Cox**, whose appointment as chief engineer of the Vicksburg (Miss) Traction Company was announced in the *ELECTRIC RAILWAY JOURNAL* of Aug. 26, 1911, succeeds Mr. J. H. Pallister with that company and not Mr. Thomas Hunt, as previously stated. Mr. Cox was formerly chief engineer of the Southern Railway & Lighting Company, Natchez, Miss., in which capacity he served six years.

**Mr. F. W. Wilson** has been appointed manager of Sacandaga Park by the Fonda, Johnstown & Gloversville Railroad, Gloversville, N. Y., to succeed Mr. C. B. Nellis. For four years prior Mr. Wilson was connected with the auditing department of the company under Mr. G. A. Harris, general auditor. Before becoming connected with the Fonda, Johnstown & Gloversville Railroad he was employed on the staff of the Gloversville *Morning Herald*.

**Mr. C. A. Henderson**, whose appointment as assistant general manager of the Los Angeles (Cal.) Railway Corporation was noted in the *ELECTRIC RAILWAY JOURNAL* of

Aug. 5, 1911, was appointed auditor of the Los Angeles Railway in May, 1895, and on Nov. 1, 1911, he was elected secretary and treasurer of the Los Angeles Railway Corporation, which took over the Los Angeles Railway. Mr. Henderson also served as secretary and assistant to the treasurer of the Los Angeles Railway.

**Mr. Frank Parks**, superintendent of the Central Park, North & East River Railroad, New York, N. Y., began his railroad career on Jan. 2, 1880, as a driver on the Broadway Railroad, New York. In July 1889, he was made a driver on the Avenue C line and subsequently served as starter, inspector and general inspector for the Metropolitan Street Railway, New York. On Nov. 9, 1908, Mr. Parks resigned from the Metropolitan Street Railway to accept a position under Mr. George W. Linch, receiver of the Second Avenue Railroad, as chief inspector.

**Mr. Robert R. Hertzog**, who recently resigned as general superintendent of the Chicago (Ill.) Railways Company, has been made general manager of the Whitmore Product Sales Company, the Western branch of the Whitmore Manufacturing Company, of Cleveland, manufacturer of lubricating compositions. Mr. Hertzog was connected for twenty years with the Chicago Railways Company and the companies that preceded that corporation. He entered street railway work as a boy in a minor capacity and at one time or another has held nearly every position in the operating department.

**Mr. J. Beckett Russell**, auditor and local secretary and treasurer of the Manila Electric Railroad & Light Company, Manila, P. I., is on a visit to New York to consult with J. G. White & Company, Ltd., who constructed the Manila property and now operate it. Mr. Russell on his journey to New York visited Hongkong, Singapore, Colombo, Cairo, Algiers, Nice, Genoa, Madrid, Paris, London and Glasgow and studied the transit systems in these cities. He is optimistic as to the future of the Philippines and says that before long Manila will have a population of 500,000. Mr. Russell will return to Manila in a few weeks via Japan.

**Mr. J. C. Espy** has recently been appointed superintendent of transportation of the Cleveland, Painesville & Eastern Railroad, Willoughby, Ohio. Mr. Espy entered the employ of the Cleveland, Painesville & Eastern Railroad in July, 1898, as a motorman. Later he was transferred to the position of conductor and was appointed night train dispatcher in October, 1901. In the fall of 1906 he was appointed chief dispatcher and continued in this capacity until recently. Prior to becoming connected with the Cleveland, Painesville & Eastern Railroad Mr. Espy was in the employ of the Lake Shore & Michigan Southern Railroad for more than eight years. He began his service with the Lake Shore & Michigan Southern Railroad as a locomotive fireman. After about three years in that capacity he was promoted to be a locomotive engineer, but not being satisfied with the work he resigned to take up electric railroading.

## OBITUARY

**W. H. Latshaw**, formerly vice-president of the National Tube Company, Pittsburgh, Pa., died at his home in Pittsburgh, Pa., on Aug. 29, 1911.

**James Christie**, formerly chief engineer of the American Bridge Company, New York, N. Y., died of apoplexy at his summer home in Atlantic City, N. J., on Aug. 24.

The Public Service Commission of the First District of New York has been officially notified by T. P. Shonts, president of the Interborough Rapid Transit Company, New York, that the company refused to accept the terms of the certificates for the completion of the third track upon the elevated system of the Manhattan Elevated Railway and to the Interborough Rapid Transit Company for elevated extensions through White Plains Road and Jerome Avenue in the Bronx, and over the Queensboro Bridge. The directors of the company decided that the terms of the certificates were "too onerous for acceptance by the Interborough Rapid Transit Company." In his letter to the Public Service Commission President Shonts also says that the directors of the Manhattan Elevated Railway are not willing to apply to the commission for a certificate for the third-tracking of the elevated lines under conditions which would make the third track improvements subject to recapture by the city at the end of ten years.



# Construction News

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

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

## RECENT INCORPORATIONS.

**\*Stuttgart & Southern Railway, Little Rock, Ark.**—Incorporated in Arkansas to build a railway from Stuttgart 25 miles through Arkansas County to a point on Bayou Meto. Capital stock, \$300,000. Among the incorporators: J. I. Porter, John L. Ingram, Phillip Reinsch, Elliott Tallman, J. W. Underwood, L. E. Morphew and George C. Lewis.

**\*West Side Railroad, San Francisco, Cal.**—Application for a charter has been made by this company to build an electric railway between Sacramento and Rio Vista. Capital stock, \$1,000,000. Headquarters, 310 Sansome Street, San Francisco. Officers: William Herlitz, secretary and treasurer; B. P. Lilienthal and H. W. Furlong, directors.

**Waycross Street & Suburban Railway, Waycross, Ga.**—Chartered in Georgia to build a 30-mile electric railway between Hebardville, Deenwood, Winona Park, Blackshear, Waresboro and Waycross. Capital stock, \$150,000. Common stock issued, \$100,000. Preferred stock issued, \$50,000. Incorporators: L. J. Cooper, George W. Dean, A. M. Knight and J. M. Cox, all of Waycross. [E. R. J., July 15, '11.]

**Southwestern Kentucky Electric Railway, Light & Power Company, Hickman, Ky.**—Incorporated in Delaware to build an electric railway from Paducah to Hickman, Ky., via Mayfield, Fulton and Union City, Tenn., or from Paducah through the north of Ballard County, following the Mississippi River to Hickman. Officers: H. C. Rhodes, Paducah, president; R. H. Scott, treasurer and John D. Smith, secretary. [E. R. J., Sept., 2, '11.]

**\*Cadiz (Ohio) Traction Company.**—Chartered in Ohio to build an electric railway in Cadiz. Capital stock, \$10,000. Incorporators: Robert P. Scott, B. W. Rowland, C. S. Scott, R. C. Pittus and Thomas Scott.

**\*Hood River Terminal Company, Portland, Ore.**—Application for a charter has been made in Oregon by this company to build a gasoline, electric or steam railway from a point on the Oregon-Washington Railway & Navigation Company's line in Hood River to the steamboat landing ½ mile east of Hood River. Capital stock, \$5,000. Incorporators: W. A. Delashmutt, A. B. Ireland and W. Chapman.

**\*Snow Shoe Electric & Street Railway, Snow Shoe, Pa.**—Application for a charter has been made in Pennsylvania by this company to build a 2-mile electric railway to connect Snow Shoe and Bellefontaine. Capital stock, \$15,000. Incorporators: David Chambers, John G. Uzzle, James Uzzle, George B. Uzzle and W. E. Brown.

**\*Twentieth Century Transportation Company, Pierre, S. D.**—Incorporated in South Dakota to build an electric railway from Chicago, Ill., to Rapid City, S. D., via Minneapolis and St. Paul, Minn., and Watertown and Pierre, S. D. Capital stock, \$1,000,000. Incorporators: Robert Bailie, C. B. Keene, Lancaster, Wis.; Ernest Norwood, Winona, Minn., and John A. Holmes, Pierre, S. D.

**Highland Park & Lake Burien Railway, Seattle, Wash.**—Incorporated in Washington to build an 8-mile electric railway from Seattle to Highland Park and Lake Burien. Reitz, Storey & Duffy, Northern Bank Building, Seattle, are the engineers for this company and it is reported that contracts will be awarded at once for 21,000 ties and 2000 ft. of trestle work. Incorporators: W. H. Coughlin, 302 American Bank Building, Seattle; William H. Murphy, James R. Stirrett and J. R. McLaughlin. [E. R. J., Aug. 12, '11.]

## FRANCHISES

**\*Hollywood, Cal.**—The Board of Trade has been asked to grant franchises for crosstown lines in Hollywood for Griffith Park and for sections of Hollywood not well provided for.

**\*Los Angeles, Cal.**—The Supervisors of Los Angeles County have been asked for a forty-year franchise for a bridge across El Monte Road and a double-track electric railway, and will receive bids until Sept. 25, 1911.

**Watts, Cal.**—The Pacific Electric Railway, Los Angeles, has received a franchise from the Town Trustees over certain streets in Watts connecting the four-track lines of the company with the lines of the Los Angeles & Redondo Railway at Homewood station.

**Deep River, Conn.**—The Shore Line Electric Railway, New Haven, has received a franchise from the Selectmen to lay tracks on Main Street in Deep River.

**Hartford, Conn.**—The Connecticut Company has asked the Railroad Commission to approve plans to double track its lines in East Hartford and in Manchester.

**Marengo, Ill.**—The franchise referred to in the ELECTRIC RAILWAY JOURNAL of Aug. 26, 1911, as having been granted the Woodstock & Sycamore Traction Company in Marengo refers to the rights under which this company is constructing an extension of its line through Marengo to Woodstock, 12 miles northeast of Marengo. The Woodstock & Sycamore Traction Company has been operating regular service through Marengo as far as the tracks of the Elgin & Belvidere Electric Company since Aug. 26 and is now operating between Marengo, Genoa and Sycamore on a three-hour schedule.

**Salem, Mass.**—The Boston & Eastern Railroad, Boston, has asked the Selectmen for a franchise in Salem. [E. R. J., Aug. 26, '11.]

**Kansas City, Mo.**—The Metropolitan Street Railway, Kansas City, has received a franchise from the City Council for the construction of the West Twelfth Street trafficway, toward which this company is to contribute \$200,000 as a rental for the operation of its Twelfth Street cars over the viaduct portion of the trafficway until June 1, 1925, when all of its franchises expire.

**Binghamton, N. Y.**—The Binghamton Railway has asked the Common Council for a franchise to extend its tracks in the South Side, Binghamton.

**Cleveland, Ohio.**—The Cleveland Railway has asked the City Council for a franchise for a new cross-town line for the East Side of Cleveland, extending from Broadway to Gordon Park, via East Seventy-ninth Street.

**Middletown, Ohio.**—The Ohio Electric Railway has asked the Council for a renewal of its franchise through Middletown and to double track Main Street.

**\*Marshfield, Ore.**—The Terminal Railway has received a franchise from the City Council to build an electric railway in Marshfield and a steam line down the waterfront. P. A. Sandberg, Marshfield, chief engineer. This is part of a plan to build an electric railway between Marshfield, North Bend and Sunset Bay.

**Lebanon, Pa.**—The Mayor has approved the franchise giving the Ephrata & Lebanon Railway perpetual rights over certain streets in Lebanon.

**Montreal, Que.**—The Board of Control of Montreal has approved and recommended to the Council the acceptance of the Montreal Street Railway's plan for a new belt line within the city. New tracks will be laid on Prince Arthur Street, from St. Lawrence Boulevard to Cadieux Street. The new route will be known as the St. Antoine belt line.

**South Denison, Tex.**—The Texas Traction Company, Dallas, will ask the Council for a franchise to extend its tracks to South Denison.

**Wenatchee, Wash.**—The Wenatchee Traction Company and the Wenatchee Valley Railway & Power Company have applied to the commissioners of Chelan County for the right to use the county roads. The City Council has prepared a franchise and will tender it for acceptance.

**Moundsville, W. Va.**—The Wheeling Traction Company has asked the Council for a franchise to relocate the tracks on some of its lines in Moundsville.

**New Cumberland, W. Va.**—The Steubenville, Wellsburg & Weirton Railway, Charleston, has received a franchise from the County Court to build its tracks over certain county roads in the Butler district. Albert Lee is interested. [E. R. J., Aug. 5, '11.]

## TRACK AND ROADWAY

**Fresno, Coalinga & Monterey Railway, Fresno, Cal.**—Surveys have been completed by this company from Fresno to Coalinga, from which point the line passes



through the Los Gatos Pass to Hollister and San Juan and thence to Salinas and Monterey. Construction will be begun as soon as the company secures financial backing. T. C. White, Fresno, president. [E. R. J., June 17, '11.]

**Glendale & Eagle Rock Railway, Los Angeles, Cal.**—Plans are being considered by this company to extend its line north from Glendale. The ultimate terminus will be Sunland, 13 miles northwest of Glendale around the Verdugo hills. Other improvements also will be made.

**Pacific Electric Railway, Los Angeles, Cal.**—The extension of this company from Hollywood to Van Nuys has been begun. On Sept. 15 the company expects to place in operation its extension between Glendale and Burbank.

**Monterey & Pacific Grove Railway, Monterey, Cal.**—Plans are being made by this company to build an extension from Nineteenth Street in Pacific Grove via Lighthouse Avenue, Willow Street and Spruce Avenue to the Presidio of Monterey.

**Oakland, Antioch & Eastern Railway, Oakland, Cal.**—After the completion of this company's line into Oakland it will be continued into the San Joaquin and Sacramento Valleys to Sacramento and Stockton.

**Sacramento & Woodland Railway, Sacramento, Cal.**—Work has been begun on Main Street in Woodland by this company on its line between Sacramento and Woodland to connect at Woodland with the Vallejo & Northern Railway. T. T. C. Gregory, president. [E. R. J., July 20, '11.]

**San Diego & El Cajon Valley Interurban Railway, San Diego, Cal.**—The Schmidt Grading Company is grading this company's line at City Heights on the last strip of the section between La Mesa and San Diego. Immediately after this section is graded the rails will be laid to La Mesa, 12 miles.

**Central California Traction Company, San Francisco, Cal.**—It is reported that this company will build a line from Lodi, San Joaquin County, up Dry Creek, with extensions to Jackson and Sutter Creek.

**Tidewater & Southern Railroad, Stockton, Cal.**—This company will extend its line from Merced to Fresno. Surveys have been begun south from Merced. [E. R. J., Aug. 19, '11.]

**Georgia Railway & Electric Company, Atlanta, Ga.**—Work has been begun by this company on its extension from Buckhead to Brookhaven along the Peachtree Road.

**Macon Railway & Light Company, Macon, Ga.**—Work has been begun by this company on its new track in Vineville.

**Chicago (Ill.) City Railway.**—This company has placed in operation two new routes in Chicago connecting the West and South Sides through the downtown district. No. 7 begins at State and Thirty-ninth Streets and extends to Madison Street and Sixtieth Avenue and No. 10, known as the Western Avenue line, extends from Belmont Avenue to Seventy-first Street.

**Kewanee, Bradford & Henry Interurban Railway, Henry, Ill.**—Work has been begun by this company on its railway to connect Kewanee, Osceola, Bradford, Broadmoor, Whitefield and Henry. It is planned to operate gasoline cars. John P. Brady, Kewanee, is interested. [E. R. J., Sep. 2, '11.]

**\*Pekin (Ill.) City Railway.**—This company has placed in operation its line in Pekin from the Court House to the sugar works. The company expects to build the Court Street line from the Capital Street terminus east to the East Bluff. J. E. Melick, Springfield, president of the Mississippi Valley Interurban Railway, promoter.

**Ft. Wayne & Springfield Traction Company, Decatur, Ind.**—This company will soon let contracts to build an extension from Springfield to Portland.

**Indiana & Northwestern Traction Company, Monticello, Ind.**—Work has been resumed by this company, grading and clearing the right-of-way through Newton County. Over \$50,000 in subsidies have been voted in aid of the construction of this proposed electric railway to connect Cedar Lake, Reynolds, Hammond, Crown Point, Rensselaer, Lafayette and Chicago. Eugene Purtell, 222 La Salle Street, Chicago, president. [E. R. J., Jan. 28, '11.]

**Vincennes & Southeastern Interurban Railway, Vincennes, Ind.**—This company has awarded the contract to the Western Construction Company for the construction of its line from Vincennes to St. Meinrad, Jasper, Tell City, Troy and West Baden. Work has been begun. G. B. Hazleton, Vincennes, president. [E. R. J., Sep. 2, '11.]

**Ft. Dodge, Des Moines & Southern Railway, Ft. Dodge, Ia.**—This company has acquired a new right-of-way by which it will enter Des Moines by means of a new track from Brooks Street northward to the city limits. This route will involve the construction of new track and the building of a bridge over the Des Moines River.

**Wichita Railroad & Light Company, Wichita, Kan.**—Grading has been begun by this company on its extension into Halstead. The line from Wichita extends north to a point about 5 miles east of Halstead. From this junction one branch will go east to Newton and the other is to come west through Halstead and Burdett to Hutchinson.

**Henderson (Ky.) Interurban Railway.**—Right-of-way has been secured by this company for its electric railway between Henderson and Owensboro, via Dixon, Uniontown, Sebree, Morganfield and Providence. Malcolm Yeaman, Henderson, president. [E. R. J., Apr. 1, '11.]

**\*Algiers, La.**—Joseph E. Renecky and associates plan to build an electric railway on Morgan Street and Patterson Street in Algiers.

**Springfield (Mass.) Street Railway.**—Work has been begun by this company on its 1-mile extension from Springfield to Ludlow. The company will not build its Mill River line this year.

**Detroit (Mich.) United Railway.**—This company is said to be considering plans to build a new crosstown line to extend from the southwestern section of Detroit to the northwestern district and then east to the automobile industry section in the northeastern end of the city.

**\*Grand Rapids, Mich.**—It is reported that Chris De Jonge, Zeeland, and others are promoting an electric railway between Grand Rapids and Grand Haven via Georgetown, Blendon and Robinson.

**Interurban Construction Company, Hastings, Minn.**—This company advises that it has begun the construction of the electric railway to connect St. Paul, Inver Grove, Hastings, Cannon Falls, Zumbrota, Pine Island, Orinoco and Rochester. The company's repair shops will be located at Hastings. Officers: A. T. Stebbins, Rochester, president; Edward Feldhouser, Capital National Bank Building, St. Paul, vice-president; John Heinen, Hastings, secretary and treasurer; W. L. Sonntag, Hastings, general manager and purchasing agent, and W. F. Bretschneider, Hastings, chief engineer. [E. R. J., Aug. 26, '11.]

**\*Carson City, Nev.**—D. W. Williams, Carson City, and associates are considering plans to build an electric railway between Carson City, Glenbrook, Lake Tahoe and Reno. He has been promised \$100,000 by the residents of Carson City.

**Frontier Electric Railway, Niagara Falls, N. Y.**—Right-of-way has been secured by this company from Main Street across country, through the Tonawandas, down the Niagara River and through Niagara Falls. James S. Simmons, Niagara Falls, general manager. [E. R. J., July 1, '11.]

**Ohio Electric Railway, Cincinnati, Ohio.**—This company contemplates extending the northern terminus of its Defiance & Lima branch into Defiance. The present terminus is in the suburbs and the plan is to extend the line as far as the Auglaize River Bridge.

**People's Electric Railway, Muskogee, Okla.**—This company has completed the grading of its line between Muskogee and Fort Gibson. George W. Risser, Oklahoma City, president. [E. R. J., Aug. 19, '11.]

**Toronto (Ont.) Railway.**—This company has placed in operation its newly completed Harbord Street line in Toronto.

**\*Terminal Railway, Marshfield, Ore.**—Preliminary engineering work is being done by this company, which proposes to build an electric railway in Marshfield from a point several miles above the C. A. Smith mill, on Isthmus Inlet, into Marshfield and down the waterfront of both Marsh-



field and North Bend, and from North Bend down the coast to Sunset Bay. The company building the road is composed of the C. A. Smith Lumber Company, the Simpson Lumber Company and W. S. Chandler and Flanagan & Bennett, bankers. It is to be incorporated with a capital stock of \$200,000, with \$100,000 to be paid up at once. P. A. Sandberg, who was formerly the city engineer of Marshfield, has been engaged as engineer for the road and has started on the work.

**Oregon Electric Railway, Portland, Ore.**—This company has secured right-of-way through the Schindler ranch, south of Salem.

**Bloomsburg & Millville Street Railway, Bloomsburg, Pa.**—At a meeting of the stockholders of this company held at Bloomsburg a reorganization of this company was effected and plans made to complete the new railway. The company will be named the Bloomsburg, Millville & Northern Railway.

**Johnstown (Pa.) Traction Company**—This company will soon begin the construction of its extension from Johnstown to Southmont via the Eighth Ward.

**Lebanon & Campbelltown Street Railway, Lebanon, Pa.**—C. J. Barr and William S. Davis, Lebanon, and M. E. Brightbill, Annville, have been awarded the contract to construct this line, a distance of about 9 miles. Work will be begun at once. M. S. Hershey, president. [E. R. J., Sept. 2, '11.]

**Stroudsburg & Water Gap Street Railway, Stroudsburg, Pa.**—This company has placed in operation its extension from Portland to Delaware Water Gap.

**Titusville (Pa.) Electric Traction Company.**—Surveys have been begun by this company on its extension from Townville northeast along Muddy Creek toward Little Cooley Road. This line will be extended to Cambridge Springs.

**Nashville Railway & Light Company, Nashville, Tenn.**—This company will soon place in operation its extension of the Belmont line near Belmont College.

**Texas Traction Company, Dallas, Tex.**—Plans are being considered by this company to extend its lines in Southeast Denison.

**Denton (Tex.) Traction Company.**—The extension of this company's lines from Denton to the College of Industrial Arts has been placed in operation.

**San Antonio (Tex.) Traction Company.**—This company will start work this fall on an extension of the Beacon Hill line for a distance of about a mile in the Los Angeles Heights addition.

**Southwestern Traction Company, Temple, Tex.**—Grading has been begun by this company on its extension from Temple to South Temple.

**Utah Light & Railway Company, Salt Lake City, Utah.**—This company has begun the construction of its Sugar House extension towards Halliday. It has also begun to build its extension from Fifth South Street in Salt Lake City.

**\*Richmond, Va.**—J. C. Robertson and associates plan to construct an electric railway between Richmond and Urbanna.

**Washington-Oregon Corporation, Vancouver, Wash.**—This company advises that it will soon build about 2 miles of track from the center of Vancouver across the United States Military Reservation to East Vancouver.

**Clarksburg & Weston Electric Railway, Clarksburg, W. Va.**—This company's extension from Clarksburg to Byron has been completed and will be placed in operation as soon as the bridge at the Old Fair Grounds is finished. The connecting line between the Goff Addition and Broad Oaks lines was recently completed.

#### SHOPS AND BUILDINGS

**British Columbia Electric Railway, Vancouver, B. C.**—This company has called for bids for a carhouse at Queen's Avenue and Twelfth Street, nearly opposite the company's repair shops in New Westminster. The plans call for alternate bids on reinforced concrete or wood frame with galvanized iron covering. The carhouse is to be 240 ft. x 104 ft. and will consist of two units, each having four tracks.

Provision is made for pit tracks, workshops, etc., in connection with project. The work will be rushed to completion as soon as the contract is awarded.

**Ft. Wayne & Northern Indiana Traction Company, Ft. Wayne, Ind.**—This company advises that it is in the market for one 48-in. steel-tired carwheel lathe, for wheels up to 42 in., to be motor driven; one 48-in., 40-ton hydraulic wheel press for 42-in. wheels, to be motor driven, and one 42-in. car-wheel bore, to be motor driven.

**Des Moines (Ia.) City Railway.**—This company has purchased a site at Second Street and Locust Street, Des Moines, on which it expects to build a new interurban depot and freight house. A second story is being built to this company's Twenty-fourth Street carhouse, where a room is being provided for the motormen and conductors. The size of this addition is 30 ft. x 28 ft. Contracts have been let for this work.

**Beaver Valley Traction Company, New Brighton, Pa.**—This company will build an addition to its repair shop in Rochester and will install new equipment.

**Regina (Sask.) Municipal Railway.**—This company has awarded a contract for the construction of its new carhouse in Regina to A. E. Downs. The cost is estimated to be about \$22,975.

**Greenville, Spartanburg & Anderson Railway, Anderson, S. C.**—Plans are being considered by this company for the erection of a passenger station in Anderson.

**Ft. Worth, Cleburne & Dallas Railway, Cleburne, Tex.**—A new depot for the use of this company and the Pacific & Texas Railway has been built in Dalworth. It is now in use by the Ft. Worth, Cleburne & Dallas Railway.

#### POWER HOUSES AND SUBSTATIONS

**British Columbia Electric Railway, Ltd., Vancouver, B. C.**—This company has awarded C. C. Moore & Company, Seattle, Wash., the contract for the extension of its auxiliary steam power plant, operated in connection with the Vancouver substation of the company at Main and Branard Streets. This firm installed the original steam power plant for the company at the point. The approximate expenditure represented by the contract is about \$250,000 and the terms call for the completion of the work by Dec. 18, 1911. The equipment covered includes four Babcock & Wilcox boilers, each of 500 hp, a 200-kw Allis-Chalmers turbo-generator, condensers, piping, etc. The additional equipment will increase the available power from the steam auxiliary plant to 12,000 hp.

**Wilmington & Philadelphia Traction Company, Wilmington, Del.**—A. S. Reed & Brothers Company, Wilmington, have been awarded the contract to construct the new power plant on Buena Vista Street in Wilmington. Exclusive of the cost of the foundations, which have been completed, this new plant will cost about \$60,000.

**Des Moines (Ia.) City Railway.**—This company is building an extension to its power station in Des Moines to accommodate transformers purchased recently. The company has purchased one 300-kw Westinghouse rotary, one 500-kw General Electric rotary and three 750-kw General Electric transformers. The necessary switchboards are to be ordered. Bids have been asked for coal-handling apparatus and a traveling crane for the company's power station and for a new in-take with a well with concrete walls.

**Boston (Mass.) Elevated Railway.**—This company has begun the construction of six new transformer substations in Brookline, Walden, Arlington, East Boston and Roslindale.

**San Antonio (Tex.) Traction Company.**—This company is remodeling and improving its power house in San Antonio.

**Ashland Light, Power & Street Railway Company, Ashland, Wis.**—A. E. Appleyard, Ashland, general manager of this company, has begun the construction of a power plant in Mellen to supply the power to the plants at White River, Ironwood, Ashland, Bessemer and Hurley.

**Wisconsin Traction, Light, Heat & Power Company, Appleton, Wis.**—Plans are being made by this company to build a new power plant at Gardner dam, near Antigo, for the generation of electricity to be transmitted to Appleton.



# Manufactures & Supplies

## ROLLING STOCK

Oregon Short Line Railroad, Chicago, Ill., has ordered one 70-ft. gasoline motor car from the McKean Motor Car Company.

New York & Queens County Railway, Long Island City, N. Y., has ordered ten double-truck city cars from the Jewett Car Company.

Philadelphia & Westchester Traction Company, Philadelphia, Pa., has ordered one 50-ft. express car body from the Jewett Car Company.

Dayton & Troy Railway, Dayton, Ohio, has ordered two 26-ft. 6-in., combination passenger, baggage and smoking car bodies from the Jewett Car Company.

Hutchinson (Kan.) Interurban Railway has ordered one double equipment No. 92-A motors with type K-10 control from the Westinghouse Electric & Manufacturing Company.

Richmond & Henrico Railway, Richmond, Va., has ordered one No. 101-B-2 motor equipment with type K-10-A controllers from the Westinghouse Electric & Manufacturing Company.

Trenton, Bristol & Philadelphia Street Railway, Trenton, N. J., has ordered two No. 305 motor equipments with type K-36-F controllers from the Westinghouse Electric & Manufacturing Company.

Pensacola Electric Company, Pensacola, Fla., has ordered four double-motor equipments using No. 92-A motors and type K-10-A control from the Westinghouse Electric & Manufacturing Company.

Lehigh Valley Traction Company, Allentown, Pa., has ordered twenty double equipments of No. 304 motors and type H-L control from the Westinghouse Electric & Manufacturing Company.

Reading Traction Company, Reading, Pa., has ordered six double-motor equipments of No. 305 motors and type K-35-F control from the Westinghouse Electric & Manufacturing Company.

Springfield (Mo.) Traction Company has ordered six double equipments of No. 323 motors with type K-10-A controllers from the Westinghouse Electric & Manufacturing Company.

Lehigh Valley Transit Company, Allentown, Pa., has ordered four quadruple No. 101-B motors with type K-28 controllers from the Westinghouse Electric & Manufacturing Company.

Connecticut Valley Street Railway, Greenfield, Mass., has ordered five quadruple, direct-current motor equipments with K-28-B control from the Westinghouse Electric & Manufacturing Company.

Grey & Lewiston Railway, Lewiston, Me., has ordered one 8-4-E, 35-ton locomotive equipped with quadruple No. 303-A motors and H-L control from the Westinghouse Electric & Manufacturing Company.

Indianapolis, Crawfordsville & Western Traction Company, Crawfordsville, Ind., has prepared plans for a freight locomotive which probably will be built in its own shops, utilizing material available from the recent re-equipment of its passenger cars.

City and County Contract Company, Westchester, N. Y., has ordered from the Westinghouse Electric & Manufacturing Company one 80-ton switching locomotive with quadruple equipment of No. 410 motors and H-L control.

Morris County Traction Company, Morristown, N. J., has ordered five double equipments of No. 101-B motors with type H-L control and ten quadruple equipments of No. 101-B motors with type K-28-B control from the Westinghouse Electric & Manufacturing Company.

New York, New Haven & Hartford Railroad, New York, N. Y., has ordered one 80-ton central control switching locomotive with four No. 410 motors and unit switch control and fourteen 80-ton switching locomotives equipped with four No. 410 motors and type H-L control from the Westinghouse Electric & Manufacturing Company.

## TRADE NOTES

Boss Nut Company, Chicago, Ill., has opened a New York office in the Grand Central Terminal Building, in charge of Alonzo C. Shults as Eastern sales agent.

Louis Wehner, who has been connected with the Bucyrus Company, South Milwaukee, Wis., has resigned to become chief engineer of the Vulcan Steam Shovel Company, Toledo, Ohio.

Westinghouse Electric & Manufacturing Company, Pittsburgh, Pa., has received an order from Walter Brothers, Rio de Janeiro, Brazil, for two double-motor equipments of 101-B Westinghouse motors with K-16-A control.

Arthur S. Huey, first vice-president of H. M. Byllesby & Company, Chicago, spoke on the subject of public utility regulation before the convention of the American League of Municipalities held at Atlanta, Ga., October 4, 5 and 6.

Ashley P. Peck, who has been sales engineer for the New York office of Allis-Chalmers Company, is now connected with the Messrs. A. L. Ide & Sons and the Terry Steam Turbine Company, and has opened a sales office at Room 814, People's Gas Building Chicago, Ill.

Westinghouse Air Brake Company, Pittsburgh, Pa., has purchased a site at Emeryville, Cal., on which will be erected a manufacturing plant. This new plant on the Pacific coast will supply the company's Oriental trade in a more efficient manner than was possible heretofore.

Locke Insulator Manufacturing Company, Victor, N. Y., advises that it has taken over the exclusive handling of the Nicholson arcing rings. These rings are already in service on the lines of the Niagara, Lockport & Ontario Power Company, Chicago Sanitary District, Syracuse Rapid Transit Company and several other smaller installations.

American Ship Windlass Company, Providence, R. I., has received repeat orders for Taylor stokers from the General Electric Company, Pittsfield, Mass.; from the New York, New Haven & Hartford Railroad Company, for their new plant at Waterbury, Conn., and from the Northern Ohio Traction & Lighting Company, Akron, Ohio, and the Solvay Process Company, Syracuse, N. Y.

Gilbert & Sons Brass Foundry Company, St. Louis, Mo., has concluded arrangements with the Lester-Hiland Company Railway Exchange, Chicago, Ill., to handle the Gilbert line of electric railway specialties in the northern Mississippi Valley. R. L. Thayer, manager of the electric railway department of the Lester-Hiland Company, will have immediate charge of the sales of the Gilbert products for his company. He is well known in the electric railway field.

## ADVERTISING LITERATURE

Sellers Manufacturing Company, Chicago, Ill., has issued an illustrated catalog describing the uses and advantages of Sellers tie plates for general railway construction.

Mesta Machine Company, West Homestead, Pa., has issued a booklet containing the program and several illustrations of the various machine products which the American Society of Mechanical Engineers inspected at the Pittsburgh meeting June 2. This booklet has been re-published and a two-page half-tone of the visitors from a photograph taken at the Mesta plant has been inserted.

Blake Signal & Manufacturing Company, Boston, Mass., has issued an illustrated folder describing the uses and giving prices and discounts of its insulated staples and compressed cleats for low-voltage wiring; also a folder illustrating the use and giving prices and discounts of its tube soldering flux. This flux is a non-conductor and is non-corrosive and the tube is of convenient form for job work.

National Carbon Company, Cleveland, Ohio, has issued a new booklet entitled "Analogies between Battery Current and Water Flow." It gives an explanation of the electrical expressions commonly applied to dry cells in terms of water current and flow. The comparisons between water flow, pressure, current, resistance and quantity and the same thing in electricity cannot be misunderstood. The book is illustrated so as to make a visual explanation of the points brought out, in addition to the word description.