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EDITORIAL NOTICE

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Contents of this Issue

President Rogers

The very valuable work accomplished by the New York State Street Railway Association, and of which our readers have had ample evidence this year, in the report of the convention, as published in our last two issues, deserves, we believe, more than passing recognition by the street railway industry in general. It is not too much to say that it has been almost entirely through the active personal efforts of its president, and the fidelity with which he has performed his many exacting duties, that the meetings of the association have been so largely attended and have been productive of results of such great importance. When Mr. Rogers was elected president nine years ago, the association, while still an important and influential body, yet lacked the unity of purpose and strength which could be given to it by the unremitting efforts of one directing officer. The first year of Mr. Rogers' incumbency of the office of president was productive of such good results that he was re-elected, and, despite the fact of his many other engagements, his interest in the association has been such that he has consented to occupy the arduous post of president ever since. While the effect of his efforts come to public view only at the time of the annual convention, the office of president is one on which there are constant demands during the year, and too much credit cannot be given Mr. Rogers for his devotion to the interests of the association.

Asleep

The City Council of Bonham, Tex., has refused to grant a franchise for the construction of an electric railway through that city, having arrived, so it is said, at the conclusion that the construction of an electric railway will work to the detriment of the city. Similar decisions have been arrived at by other cities, but they are in striking contrast with those of the progressive cities and towns of the country, which are willing to grant subsidies to aid the construction of electric railways, realizing the benefit to be derived by the community at large, and appreciating that the promoters building such lines are investing their money in enterprises that give little prospects of early returns to the investor. The vision of the residents of such cities as Bonham, or those who grant franchises so restricted as to prohibit their acceptance by the capitalist ready to invest his money in so uncertain an enterprise, is either entirely obscured or else it is impossible for them to see beyond the confines of their own city. Such cities will no doubt in the future be most willing to accept less favorable terms than they could now receive, but will then find that the capitalists are adverse to investing under the most inviting conditions. Not until the residents of these cities are thoroughly aroused from their Rip Van Winkle sleep will they fully realize the cause of the advance of their progressive sister cities.

A Horseless State

So far as street railways are concerned, Massachusetts is now a horseless State. This month the last horse cars in the Bay State those running down to Buzzard's Bay, where Grover Cleveland goes fishing, gave way to the trolleys, and they were the last of their kind that could be found from the Rhode Island border to that of Maine. And yet to some of us it seems only yesterday that we were personally encouraging Mr. Richards and Mr. H. M. Whitney to try electricity, and promising them good results in doing so. We believe that every word we said has since come true, although the odds did look rather long. It was a case of betting not against one horse, but against the entire equine tribe; but here, at least, our faith in electricity was well justified, although we had only the crude earlier work of Van Depoele, Sprague, Henry, Short and one or two others to bank upon, when not one of their "roads" was earning enough to meet fixed charges. Massachusetts is the first State, it is said, from which the horse car has wholly disappeared. This may possibly be challenged, although not by New York State; but Massachusetts is to be congratulated upon its own emancipation from the "ancient regime" of "brute force" in the domain of traction.

Educating Passengers

The daily newspapers hold a perpetual brief for telling the street railway companies what to do, and instructing them as to the horrible practices they must drop at the word of reproach; but never a daily yet tried to teach the passenger what his end of the 5-cent contract was. It is, of course, clearly understood that the papers conduct, and that the passengers own, the roads; but even on that tenable supposition it would seem that traveling in a street car might involve some modicum of the education that goes with riding a bicycle or driving an automobile. We make free to say that many people will never learn how to use a street car, any more than others can use the telephone or send a telegram without spoiling three preliminary blanks. President Rogers, of the New York State Association, recently suggested, solely in the interest of passengers, making the direction of travel uniform with that in Canada and England. He barely realizes that this will be resented by some passengers, who have notions of their own on that point. There is, of course, a good deal of missionary work of the kind attempted by Mr. Rogers to be done; but prayer should be offered for the missionaries. Some companies have made an effort to instil the elements of good traveling into their passengers by notices in the car, asking them to "step lively when leaving or boarding a car," or showing them how to step off properly. Anybody who travels in the cars knows that the great, good natured, intelligent majority disciplines itself readily to all the requirements that help toward rapid transit, and a regular schedule, and that, with them, such instructions will be of value, but in no city can the crank, the kicker, the anarchist, or the Madam Facing Backward be ever or wholly cured of their stupidity or viciousness by placard or plea.

Science and Swindles

There may be more carefully cultivated fields of swindling than those in which the complainants against street railway companies work up their suits for damages, but, if so, they have escaped our notice. For example, the suits for damage claims and legal expenses consequent thereto on the Brooklyn Heights system figure out, it is said, 2½ per cent on the capital for the year, and 9 per cent of gross earnings. It is evident at once that any amount of fraud and swindle must lie "behind the record" in such a showing; but the trouble is to run down the defects in the evidence. Once in a while, however, a company does succeed in making a "holy show" of the complainant, and then, as Louis Mann, in the comic opera, says, "It is to laugh." Such a case occurred recently in Syracuse, where a bicyclist brought action for damages because he had sustained injury in coming in contact with a "strain" wire of the Syracuse Rapid Transit Company while riding on an asphalted street. Even casually it will at once be seen how lovely and easy it was for the current to prove an alibi, and happily the court rose to the occasion. The evidence showed that the wire was being handled by wiremen with bare hands, but, aside from evidence, the court felt compelled to remark, with scientific insight:

This street is covered with asphalt pavement, and between the gutters is 40 ft. in width, with an unimpeded space of 13 ft. between each outer rail of the defendant's track and the curb. The plaintiff testified with much positiveness that the asphalt was absolutely dry; and his own statement is that it was a nice day, and this is corroborated by the records of the Weather Bureau in Syracuse. Several electrical experts testified that asphalt, when dry, is a non-conductor of electricity, and that the concrete which forms the base of this pavement is also a non-conductor in that state, as is the rubber which was the tiring of the wheels of the plaintiff's bicycle. While this may, in a measure, be expert testimony, yet the witnesses testified to a scientific fact, and their testimony is entirely undisputed.

We recall a similar case in the early days of the trolley, when a woman over in Jamaica, Long Island, wanted damages for lightning shock in a trolley car, when it was proved that the only shock she could have sustained might have been due to the noise made by one of Mr. Van Depoele's crude overrunning trolleys dropping off the wire and hitting the top of the car with a dull thud. There is no doubt that many of these Brooklyn cases are in the same category, and it may confidently be expected that intelligent courts and juries will dispose of them accordingly.

"Taking It Out" of the Trolleys

It is a well-known fact that when municipal-ownership apostles and self-styled reformers commence looking around for something on which to put an additional tax, they never overlook so conspicuous an object as the street railway in their city. Hence the trolleys are peculiarly inviting to those who delight in "soaking" corporations, to use their own popular phrase. A vivid idea as to the degree to which this policy of "taking it out" of the trolleys can go is furnished by Boston, where, in the short period from 1889 to 1901, the taxes of the Boston Elevated system have increased 500 per cent, while the earnings have only doubled. It is true that electricity enables the heavier burden to be borne, but is it not evident to any fair-minded man that such taxes can only be characterized as an exaction? Boston once threw tea overboard for a much smaller injustice.

Out in San Francisco the old plan of varying the tax gouge by some paving or lighting ordinance has just been resorted to. A measure has been introduced in the local board requiring the trolley roads to maintain an arc lamp at every crossing traversed by their wires. This, it is proposed, to substitute for the requirement that the trolley lines shall keep up the pavement between their tracks and 2 ft. on each side of them. On the principle that an exchange is no robbery, this may, perhaps, be acceptable to the companies, but when one considers that the trolley car never wears one ten thousandth of an inch off any street paving, and helps regulate the other vehicular traffic, it is hard to see why the paving exaction is virtuous in itself. The great point that is overlooked in all these plans for loading burdens on the trolley system is that they are just that much a handicap against better service. The trolley is not an Aladdin's lamp that can give up untold millions every time a tax reformer rubs it hard. The city official out in San Francisco has doubtless taken it for granted that those arc lights "won't cost anything," because the company has to turn out so much current anyhow. Well, every arc lamp on the street means at least 1 hp more capacity in the power house, to run which means, at the lowest, $50 a year, where coal is cheap. One of the city officers has estimated that the city will save $90,000 annually in lighting bills, which would mean 1000 arcs at $90 a year. And yet failure to meet this gouge carries with it a forfeiture of the right to maintain trolley wires!

The Moving Platform

Probably most of us have watched with admiration the agile brakesman of a long freight train pass from car roof to car roof, as though the whole train were but a moving platform, in order that he might set the brakes—or possibly to get a plug of tobacco. The dazzling feats on the tight rope or the high trapeze of the circus can barely hold their own with such agility, but, of course, it would not be possible for the brakesman to indulge in such displays of equitation if the cars were not coupled close together. We have heard it said that when Broadway in New York gets congested with a block of traffic, it is possible for a conductor to pass over the roofs of half a mile of Metropolitan cars, so closely are they packed together, and so short is the headway at all times. This is indeed less an exaggeration than it may seem to the outsider, for the service in New York by electric car on the main routes of travel comes nearer to the "moving sidewalk" than any other development of transportation. This feature of American street railway work has impressed foreign observers, although it will never enjoy the admiration of the man who, when the cars are running on ten-second headway, growls because he can't get a seat. In a recent Cantor lecture Major P. Cardew, a well-known authority in England, said:

Electric traction tends toward the ideal of the continuously moving platform, and one may say that the more nearly a railway

tends toward the same ideal the more likely is the adoption of electricity as its motive power. In those most closely approaching this limit, namely, the metropolitan railways, all other systems at present known have long been seen (by all except, perhaps, the directors of the London underground and district railways) to be doomed. The reason lies in the essential difference between steam and electric driving, namely, that in the one case the train must carry its own power generator, while in the other the power is generated in bulk for a number of trains. Since the generation of power in bulk is much cheaper than in detail, the tendency with steam locomotives is to make each detail as large as possible, and, therefore, to run heavy trains at long intervals. With electric working, on the other hand, it is desirable to make the load on the generating station as constant as possible, which can only be done when the number of trains is large and each only takes a small fraction of the total load; for in such a case the stopping and starting of individual trains will only have a small percentage effect on the output of power. It will readily be seen, therefore, that for long-distance traffic the steam locomotive is likely for some time to come to hold its own, for here the number of passengers is not so great as to be able to support a very frequent service of light trains, and, moreover, the time taken over the journey, being nearly the whole of the day or night, practically fixes the starting times. With lines communicating between important towns not too far apart, about 100 miles, electric traction could be introduced with advantage; in this case a frequent service of light trains would be a great benefit, especially if a number of important centers lie on the route between the termini, and if there is a field for metropolitan traffic at the ends of the line. In such lines our small but densely populated country abounds.

In other words, Major Cardew has, with characteristic insight, grasped the idea that the transition from steam to electricity on trunk lines must build up from the practice that the great American street railway trolley lines have been developing these ten years past. For us in America the problem of the change is an enormous one, and will take years to work out; but little England ought to have been on a trolley basis long ago, with her short hauls and dense population. The movement of traffic there is so continuous as to need the service which Major Cardew himself describes as approximating to that of a moving platform, and which in this country finds its closest analogy in the "rapid-fire" service of our street cars in the great cities.

Saving of Power by Motormen

One of the notable actions of the recent New York State Convention was provision for the appointment of a committee on saving of power by motormen. The subject is certainly one worthy of study, for although it is now over four years since this question began to be actively agitated, the progress in the last three years toward better practical results in the operation of cars has been practically nil, in spite of a considerable amount of investigation. These investigations have, however, proved that the waste of power by the majority of motormen exceeds even the most radical claims made by those who first agitated the subject. The investigations and attempts made to remedy this evil of an unnecessary waste of power by motormen have mainly served to demonstrate that the majority of motormen take from 10 to 50 per cent more power per car mile than is necessary to get their cars over the road on time. Though the facts as to the existence of the evil have become thoroughly established, and various devices striking more or less deeply at the root of the evil have been exploited, the best way to remedy it is far from settled. One class of devices proposed, and used to some extent, limited, or had a tendency to limit, the current taken in starting a car. As only part of the energy wasted by motormen is wasted in too rapid advancement of the controller in starting, none of these devices could go more than part way toward stopping the evil. Recording wattmeters on each car have been used in most of the experiments that have been carried on, with a view to economy on the part of the motormen. As matters stand at present, the question in the minds of those considering the matter seems to be whether the saving possible will pay for the large amount of expert and clerical labor that must be expended in maintaining a system of power consumption records for each motorman. The simple clerical labor is very small, compared with the saving possible, but to make the records just and valuable the meters must be kept calibrated, which, with meters on each car, means much work. Another plan proposed and tried has been to have a few cars on the system equipped with recording wattmeters, and pass these cars around in rotation among the motormen. This plan is based on the idea, which is to a large extent true, that economical car operation is a habit on the part of a motorman rather than due to unusual care. If this is the case the motormen's habits will show up the days they have the test car, and reform can be called for where it is needed. It has been maintained by some that all that is needed is careful instruction, but that plan has been tried and found wanting so many years that there is not much to hope for from it.

Perhaps one reason that motormen have not done better has been that misty ideas prevail in many quarters as to exactly what constitutes economical controller handling. Instruction on this point should be simple and easily understood. Reduced to its elements, the problem of operating a street car with the least amount of energy is a very simple one. Briefly stated, it is simply one of using the brakes as little as possible. The less energy wasted on the brakes the less required by the car. The motorman who spends the least of his own energy in applying the brakes is also the most economical with current. Many chapters might be written on the matter, but the basis of the whole lies in the two preceding sentences. We would suggest for the consideration of the committee on rules that the part of the rules which apply to the economical use of current could perhaps be made simpler and shorter, and consequently easier for new men to understand, without detracting from the ground covered by the paragraphs of the rule, although the essence of all necessary instructions in this matter is contained in the rules as they now stand.

The Question of Anarchism

SAN ANTONIO TRACTION COMPANY,
SAN ANTONIO, TEX., Sept. 18, 1901.

EDITORS STREET RAILWAY JOURNAL:

I wish to compliment you upon the article in the STREET RAILWAY JOURNAL of Sept. 14, "Anarchism and Those Who Are Responsible for It." I thoroughly agree with you on all points taken, and think the sooner the leading journals of the country put this matter in the proper shape before the public the sooner we shall have control of such individuals. I am glad to see a "spade called a spade," for it is high time that these subjects were treated in this manner. E. H. JENKINS, President.

The Pennsylvania State Convention

The annual convention of the Pennsylvania Street Railway Association, which is usually held during the first week in September, has, by vote of the executive committee, been postponed. The date of the holding of the convention has not yet been settled, but it will probably be between Oct. 16 and Oct. 23.

Annual Convention of the Massachusetts Street Railway Association

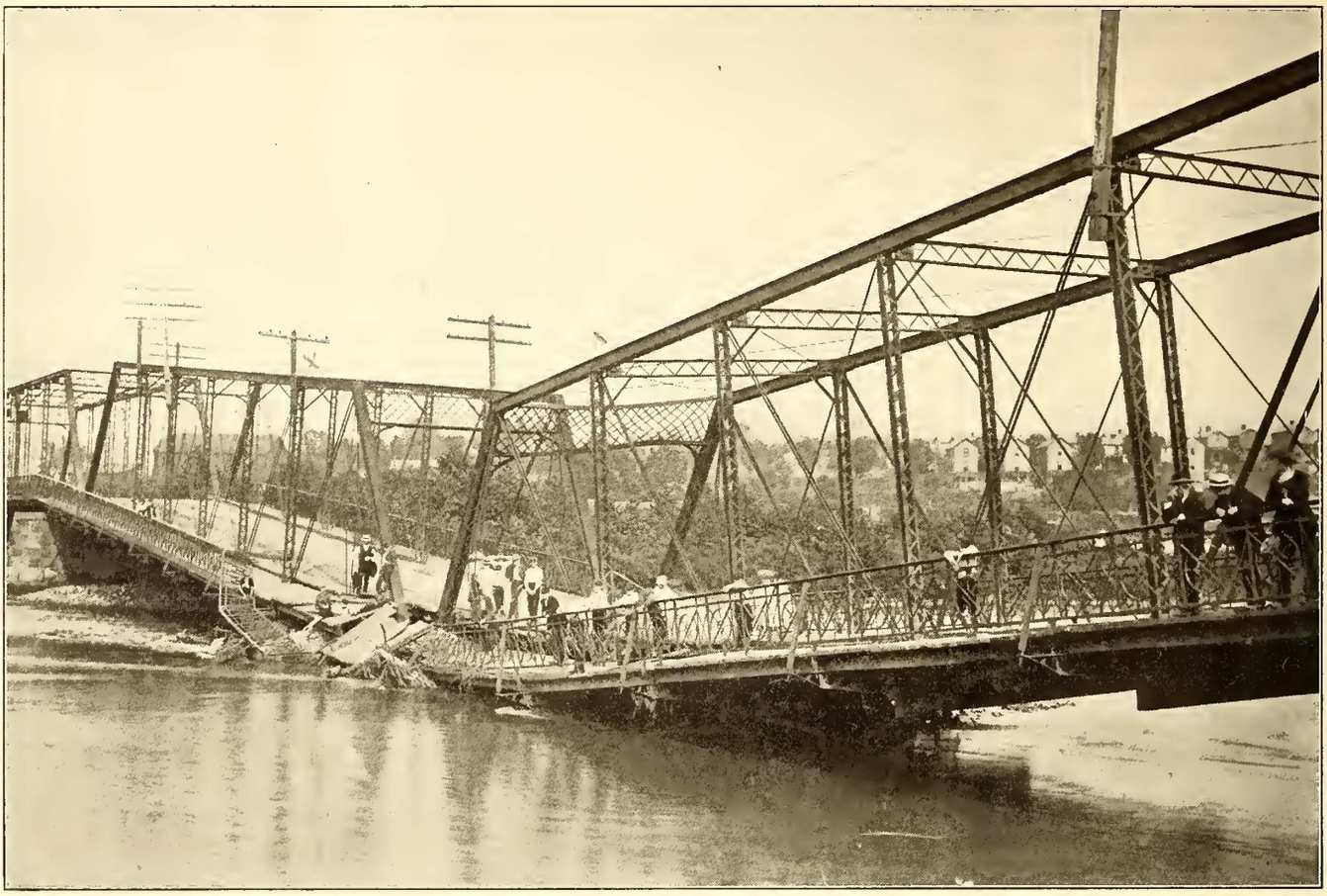
At the annual meeting of the Massachusetts Street Railway Association, held at Young's Hotel, Boston, Sept. 11, 1901, the following offices were elected: President, Elwin C. Foster, Lynn, Mass.; first vice-president, Edward P. Shaw, Newburyport, Mass.; second vice-president, Francis H. Dewey, Worcester, Mass.; treasurer, Fred H. Smith, Quincy, Mass.; secretary, Charles S. Clark, Boston, Mass.

The executive committee elected was composed of the following: John R. Graham, Quincy, Mass.; Edward P. Shaw, Newburyport, Mass.; Elwin C. Foster, Lynn, Mass.; Francis H. Dewey, Worcester, Mass.; P. F. Sullivan, Lowell, Mass.; H. H. Crapo, New Bedford, Mass.; William S. Loomis, Holyoke, Mass.; Robert S. Goff, Fall River, Mass. The following auditing committee was also elected: W. W. Sargent, Fitchburg, Mass.; Horace B. Parker, Newton, Mass.; George W. Cook, Springfield, Mass.

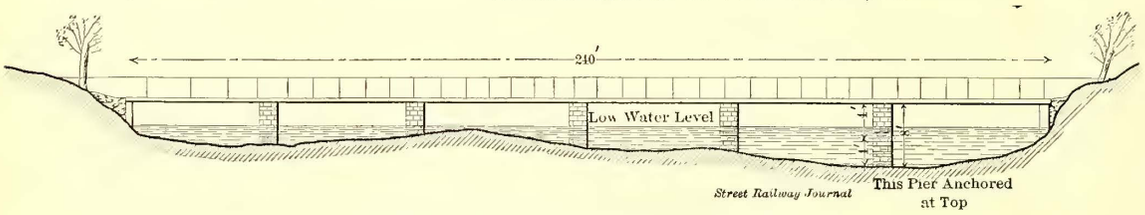
Temporary Bridge at New Castle

An ingenious method of temporarily repairing a bridge, which had been swept away by a flood, so as to form a foot bridge and allow passengers to cross the river and make connections between two sections of an electric road separated by the river, was recently employed at New Castle, Pa.

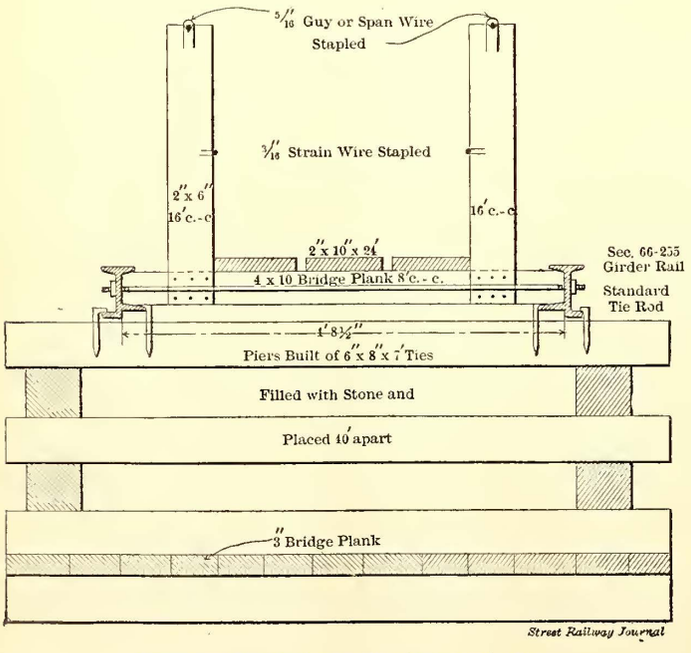
The disaster which caused this temporary expedient happened late at night on Aug. 19 last. On that and the preceding day there was a heavy rainfall, which lasted from 9 p. m. on Aug. 18 to 1 a. m. on Aug. 19, and caused a flood on Big Run, a creek emptying into the Shenango River, just above a three-span bridge. As the river did not rise in proportion, the water from Big Run Creek swept across, and, striking the second pier, undermined it. The last car of the New Castle Traction Company passed over the bridge at 11:30 p. m. on Aug. 19, and the bridge fell, as shown in the engraving, five minutes later.



BROKEN BRIDGE AT NEW CASTLE, PA



SIDE ELEVATION OF TEMPORARY BRIDGE



CROSS SECTION OF TEMPORARY PIER

To repair the bridge it was necessary to take off the first two panels of each span at the points marked in the engravings, thus cutting off communications between the two shores. J. M. Walker, superintendent of the traction company, immediately decided to build a foot bridge 240 ft. long across the river, 75 ft. or 80 ft. south of the old bridge to transfer passengers from one side to the other. By doing this traffic would not be interrupted, as the company had been able to transfer two of its cars to the south side of the river over the Pennsylvania Railroad within two hours after the accident.

As the method employed in constructing this foot way may be of interest to others who may get into the same predicament, sketches are published showing the construction. The piers for the foot bridge were constructed with ties in the form of a triangular crib and floated to place 40 ft. apart. After the bridge was built they were filled with large stones. The pier in the channel was also anchored at the top with a 5-16-in. span wire to a tree above the bridge on the bank. The beams were composed of 6-in. girder rail in 60-ft. lengths, connected end to end together, with joint plates and tied across the bridge with standard tie-rods, with oak plank to act as spreaders and floor timbers. This construction proved entirely satisfactory, and there was very little vibration. The entire bridge was built at a labor cost of $37, and nothing but stock material was used in the construction, consequently

there was no cutting and no waste except for the posts for the hand railings. The accompanying illustrations are published through the courtesy of J. M. Walker, superintendent of the New Castle Traction Company.

Schenectady-Albany Trolley Line

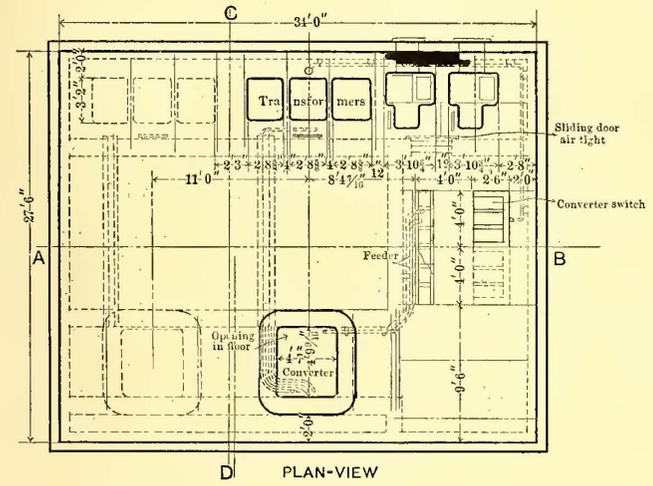
As Schenectady is the headquarters of the General Electric Company, and as the Schenectady Railway Company is controlled by that corporation, the completion during August of the extension of the trolley line from Schenectady to Albany is of special interest, and can be considered as representing the latest improvements in electric railway engineering as exemplified by that company.

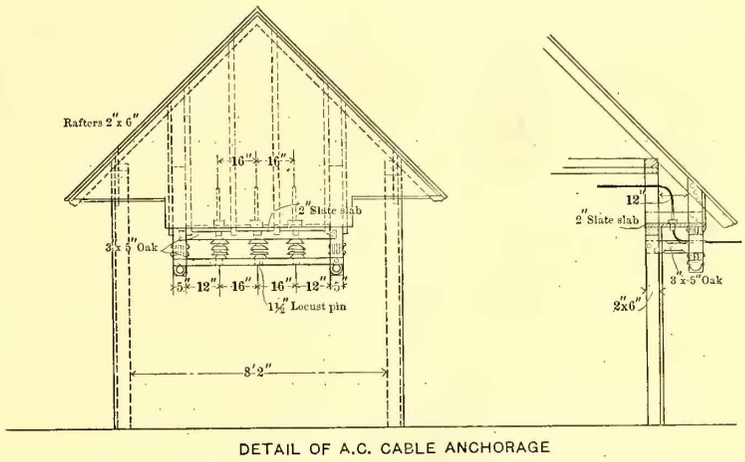
It is an interesting fact that the line runs over the old and well-known Albany and Schenectady turnpike, which was used as a toll-road over a hundred years ago, long before trains were ever run. The old settlers who remember the great traffic of those times are pleased to see the road again take on new life with the advent of the trolley. By trolley it is just 15 miles from the center of Schenectady to the center of Albany, a ride through a beautiful green and undulating section of country. The speed on the new line is much greater than on the old turnpike—forty-five minutes for the entire distance—rather slow in the two cities, but fast running in the open country—at times a mile a minute. The fare is 25 cents either way and 40 cents for a round trip. The distance is divided into five districts, within which it is possible to ride for a single fare. The dividing points are the Stamford farms, the old toll-gate house, the Catholic Cemetery near Van Rensselaer and the city line at Albany.

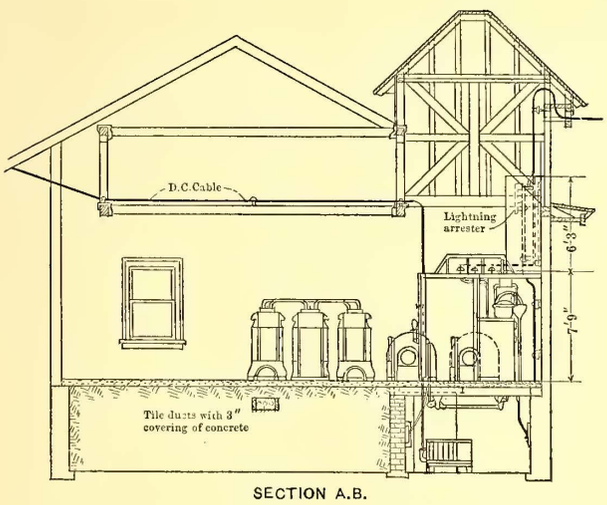
The most interesting feature of the new line is the sub-station at Karner, half-way between the two cities. It is a neat story and a half frame structure 36 ft. x 45 ft. It contains on the right side from the track a waiting room for passengers 24 ft. x 12 ft. 6 ins., and a small sleeping room and kitchen for the attendant, and on the left the power room.

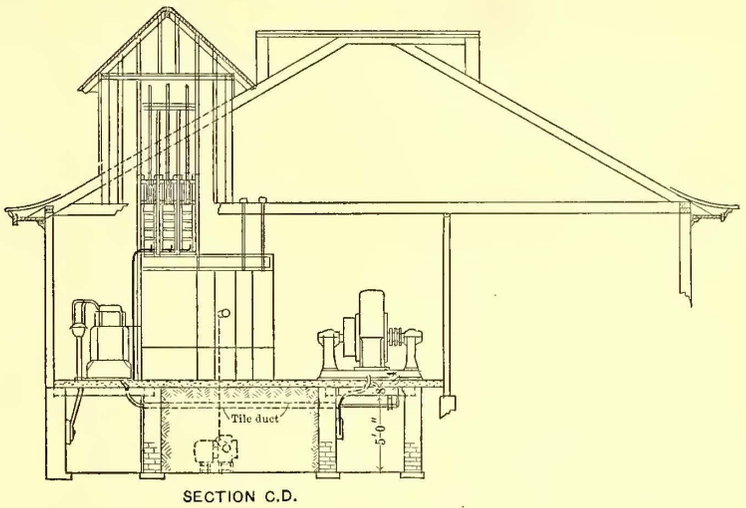
The power room is a model for its neat, compact arrangement, for its safe and simple working machinery, and for its perfect reliability in the furnishing of power to the line. As shown in the diagrams, the transformers are on one side of this room, the switchboard in the center, and on the other side a rotary converter and a small motor in the rear which drives an air compressor used for charging the storage reservoirs of the cars equipped with G. P. Magann air brakes. Considerable space is reserved open, so that when the traffic of the road increases additional transformers and rotary converters can be installed to likewise increase the power of the sub-station.

The power for the Schenectady line comes 18 miles, from Mechanicsville, at 10,000 volts, allowing for a drop of 2000 volts in transmission. The power for the Karner sub-station comes 7 miles, from a branch of the Mechanicsville line at Schenectady, also at 10,000 volts. It is carried on three hard-drawn .163-in. bare copper wires on triple petticoated glass and porcelain insulators, generally about 18 ins. apart on the cross-arms of the poles.









SUB-STATION, ALBANY-SCHENECTADY RAILWAY

The wires enter the sub-station insulated with rubber 3-16 in. thick. They enter the sub-station at an ascending angle by means of a loop on the pole and a tower built at one end of the structure for this purpose, as shown in the photograph. The advantage of this arrangement is that any water which may come upon the line in wet or rainy weather will not drip through into the power room. The wires are thoroughly insulated, and by means of glass and slate are not allowed to touch the woodwork at any point.

From the tower the wires go to an oil switch worked automatically by an overload relay in such a way that as soon as there is an overload on the line the circuit is thrown open. Between the oil switch and the station transformers is a current transformer. An overload in the current transformer sends up a plunger in the overload relay, which closes the circuit for the

tripping coil, which, in turn, throws open the oil switch. From the oil switch the line goes to the station transformers through cables 11-32 in. in diameter, with a rubber insulation 11-32 in. thick, all enclosed in a lead cover. The ammeter and current coil of the power factor meter are connected to the secondary of the current transformer and to the earth in order to avoid connecting the high-tension circuit to the switchboard. The voltage across the current transformer is small. The potential side of the power factor meter is connected to a secondary of a transformer, which is connected to the secondary of the station transformer.

The synchronizing of the rotary is done by means of a circuit from the high-potential transformer, No. 1, to a four-plug switch on the board, underneath the voltmeter, connected to a low-tension potential transformer. By changing the connections of the four-plug switch, the voltage of the rotaries can be read direct by reading the voltage of the low-tension potential transformer, No. 2.

The three station transformers are the General Electric A B type, three-phase, 38 cycles, 110 kw, 10,000 to 325-406 volts. The secondaries of the transformers are tapped at center and connected from the center and from the end to the top and bottom, respectively, of a triple-pole double-throw switch. The rotary converter is started from the alternate current side by throwing the switch in the top row, connecting with the 175-volt terminals of the transformer. When the rotary reaches synchronism the switch is rapidly thrown from the top to the bottom row, connecting with the high 375-volt terminals of the transformers. As the rotary is running light, the arc is small. This method of starting the rotary is simple and easy, and does away with the starting induction motors and compensators formerly used to a great extent. The reactive coils used for raising the voltage and compounding are also done away with. The field of the rotary is, of course, broken up in order to reduce the high induced potential on the spools when starting. The negative and rail side of the line is connected to the series field of the rotary. This makes it easier and safer to adjust the German-silver shunt, which has a number of taps connected to a switch for regulation purposes. The rotary converter is the General Electric type, six-pole, 300-kw, three-phase.

The rotary is protected from lightning by two kicking coils at the switchboard. By the diagram it will be seen the kicking coil is connected in such a way as to drive the lightning to the earth. An additional lightning arrester is also used as a safeguard. There are four panels at the switchboard, one panel for the alternate current on the rotary, one panel for the direct-current side of the rotary, and one panel for each of the feeders toward Albany and toward Schenectady. Each trolley line is connected to a separate switch at the station, so that in case one line is open-circuited the other remains alive. The sub-station feeds the line for 5 miles in each direction.

The completion of the line to Albany adds 11 miles of double track or 22 miles of single track to the mileage of the Schenectady line. The completion of the 18-mile extension to Troy, the extension to Scotia, to Athens Junction, to Mount Pleasant and a number of suburbs will give the Schenectady Railway Company about 70 miles of track.

The track is of the usual steam-railroad construction, built in the most substantial manner, with 4-ft. 8½-in. gage and 70-lb. T-rails. On account of the softness of the soil the poles had to be sunk 7 ft. instead of 5 ft. into the ground, and in many places 4-ft. sleepers were placed, as stays at right angles to the poles, 4 ft. underground.

The cars are the large new style convertible cars built by the St. Louis Car Company, recently described in the Street Railway Journal. They are equipped with the 23-A trucks of the St. Louis Car Company, the air brakes of the G. P. Magann Air Brake Company, four G. E. 57 motors, and the General Electric train control system. Three of the cars for this line are to be equipped with electric brakes and the balance with K-6 controllers, to be used temporarily.

For the building and equipping of the new lines and the retiring of the present bonds an issue of $2,000,000 of 4½ per cent bonds will be authorized and issued as required. The amount of stock to be issued has not yet been decided.

The Schenectady Street Railway Company was incorporated Feb. 25, 1886, and on July 16, 1887, began the operation of a horse car line. July 1, 1891, the line was changed to an electric road, and in June, 1894, went into the hands of a receiver. A new corporation, the Schenectady Railway Company, bought, and on Feb. 17, 1895, took over, the line. The officers and directors of the Schenectady Railway Company are nearly all prominent General Electric officials. They are: President, Hinsdill Parsons; vice-president and manager, R. H. Fraser; secretary and treasurer, James O. Carr; superintendent, M. H. Schermerhorn; directors, E. W. Rice, Jr., J. R. Lovejoy, G. E. Emmons, W. L. R. Emmet, F. O. Blackwell, A. L. Rohrer, Theodore Stebbins, H. C. Wirt and Hinsdill Parsons.

The Claim Department*

BY D. W. PATTERSON

Accidents have always been a vexatious and trying problem for the manager of a railroad, whether steam or surface, and it is not the object of this paper to attempt, in the short time allowed for its preparation, even to hint at any fixed method or formula whereby they may all be avoided, not to theorize and indulge in fancies, but rather to recapitulate a few experiences during the preceding year, from which it is to be hoped members of the association may deduce suggestions for the handling of their accident cases.

Now that electricity is the universal motive power, the number of miles of street railroad is much greater than a few years ago, and the public is more than ever compelled to use the street railway as a means of transportation, and, inasmuch as we have all reconciled ourselves to the fact that accidents are bound to happen, the best for the present will be to decrease the number of such occurrences and narrow (or harrow, if you will) the path of our enterprising friend, the ambulance chaser.

It would seem that the first step toward this end would be the careful selection of employees to operate the road, it being assumed that the latest and best appliances are furnished. The qualities most needed are obedience, patience, good judgment and faithfulness; a servant of a higher degree of intelligence than required a few years ago. To equip a road with such employees requires, of course, much time and attention; in fact, a separate department should be maintained for hiring of employees and investigating the past habits and life of the applicant. He can be had, and when secured, will remain in the service so long as the proper inducements are held out to him, such as a scale of wages in accordance with the length of service, the proper recognition of merit, the reasonable protection and assurance of his position in the event of illness, benefit societies or the like. In the case of the Metropolitan Street Railway Company, there is an appointing agent for the entire system, who has assistants to investigate, as far as possible, the habits of the applicant, with a view of determining his fitness for the service. Another requisite being competency, after meeting the requirements of the appointing agent, he is turned over to the chief instructor, who personally educates the would-be motorman or conductor, explaining in minute detail the mechanism of the car and motive power, and giving him practical lessons in the operation of cars, the object being to make him perfectly familiar with their working. After this he is put on the road under personal supervision, and after one or two weeks of this tuition, he is qualified to take charge of a car. In all, the time occupied is considerable. Even then the chief instructor does not lose sight of him, but requires reports concerning his progress from time to time.

No matter how careful the servant may be, there will come a time when some woman will step off his car in her well-known way before it comes to a standstill, or some pedestrian, deeply engaged in mentally agitating the subject of municipal ownership, will momentarily forget the existence of a particular electric road, with the certain result of a lawsuit. Then comes the time when our labors will be rewarded, and we have a man of experience, who is intelligent, and who will be capable of relating what he saw in a manner which carries conviction with it.

In passing, it might be noted that it seems to be the general practice of jurors to disregard, in part, if not wholly, the testimony of employees because of their implied interest, and that they likewise take as gospel truth any statement of an employee, made usually through confusion or lack of intelligence, which tends in the slightest degree to corroborate the facts sworn to on behalf of the plaintiff. Oftentimes, where the plaintiff stands all alone as against two or three disinterested witnesses, the road loses because of the blundering of the employee. It is but fair to say that, as a rule, jurors try to perform their duty in a conscientious manner, but somehow when he sits in judgment on his first accident case a juror is inclined by disposition or natural tendency to lean toward the side he considers unfortunate as against the corporation; yet, according to our records, that same juror, during the second week of his term, will render more verdicts for the defendant than for the plaintiff, for the reason that four out of five cases on our calendar are accident suits, and it takes but a

* Paper read before the Rochester convention of the New York State Street Railway Association, Sept. 10-11, 1901.

week of experience to acquaint him with the practices of that class of the profession that thrives on such litigation, and the plaintiff's case is discounted accordingly. In New York County jurors are usually required to serve two weeks, and in some instances only five days, which is disadvantageous for the reason stated. It would be a decided improvement if jurors were paid more for their services and compelled to serve for a full month.

It is well known that lawyers in New York who make a specialty of negligence cases do not sit idly in their offices and wait for clients, but hover about Police Headquarters, to which point all accidents are immediately reported from the various precincts throughout the city, or he turns over a monthly sum to the information bureau, and the joyful news of the deaths and amputations is carried to him within an hour or two after the occurrence. So thoroughly bold is the preparation of the up-to-date "specialist" that he does not hesitate to offer your conductor or motorman a better paying position, together with a percentage of the recovery, when he has a case of serious injury. This is the time when the employee will show his appreciation of the terms of his employment, and will remain faithful to the company.

A case in mind was tried in the first department last winter, which resulted in a verdict for the plaintiff, a boy, who claimed that, while crossing the street, he was run over, necessitating the amputation of his leg. The driver, in compliance with the rules in such cases, upon his return trip made a verified report of the accident, in which he was required to set forth fully all that had transpired. Some time after this, before the trial, the driver was discharged and lost sight of until the eve of the trial, when he was produced as plaintiff's witness, and testified that he was unable to arrest the motion of his car owing to the defective condition of the brakes. He explained, upon cross-examination, as his reason for not stating the defective condition of the brakes in his report that he was required to make the statement set forth in his report or lose his job. The same attorney, some time previous to this, offered money to another employee while the suit was pending, and the employee reported the same at the office.

The management of the roads in a neighboring city were taught a lesson in the frailty of human nature this spring, when a motorman who had been in their employ for over a year, testified on behalf of the plaintiff that he ran into the rear end of his leader, thereby killing the conductor of that car, because he was blind in the right eye and short-sighted in the other and could but indistinctly distinguish objects when within a very short distance of his car. He helped this statement along by adding that similar accidents had happened to him before for the same reason, and to make certain that they would not be non-suited because of the negligence of a fellow employee, he finished with the statement that his disability was known to the corporation, and that they retained him after such knowledge. It is likely that would-be motormen in that city will hereafter submit to a severe optical examination before their names are placed upon the pay rolls.

Similar attempts have been made several times during this year, and oftentimes, for the purpose of inducing a motorman to unfaithfulness, political influence is employed to secure his indictmen for manslaughter. It is needless to say that a conviction is never had under these circumstances, but your motorman is thoroughly terrified in the interim and may be disloyal. Our friends at best have an opportunity to stir up in the newspapers a little public feeling, thereby poisoning the minds of the people, from which jurors are drawn. This condition of affairs will continue because, by reason of long practice, many have become proficient in the trial of these cases, and have associated themselves with shrewd detectives and runners. Such talent, with plenty of money at hand and unscrupulous persons as clients, bids fair to become quite formidable, both because they seem to have no regard for an oath, and will not hesitate to manufacture evidence, both lay and medical, but will resort to all the tricks and devices which human ingenuity can conceive to further their ends. Unless you are constantly on the alert they will build up from a trifle a case which will sustain a substantial verdict. They have put a premium upon accidents, and will pay the plaintiff a sum of money when he signs the contract of hiring, and oftentimes support his family until the trial, as against the old healthy practice of receiving a retainer. And again, they will pay a stated sum, according to the nature of the accident, to any person procuring a client.

Very often the first maneuver in this battle of wits is to move the plaintiff, at the firm's expense, to another county, so that a trial may be had in a few months, whereas, if the litigant had remained in a county like New York, where the calendars are crowded, his case would not be reached for two or three years. Meanwhile, the investigating staff of the railway would have ample time to look up the plaintiff, which would usually lead to unpleasant disclosures and furnish valuable material to the defendant's counsel on the trial. Then again, witnesses are moved from time to time for the same reason. The object of all this is to frustrate the efforts which they know will be made on behalf of the railway to investigate fully into the facts, both as to the happening of the accident, the character of the client and his witnesses, and the nature and extent of the injury. A further reason for this jockeying is to keep out of the way of a subpoena any witnesses to the occurrence whom they can not press into their service. It frequently happens that, although the plaintiff obtains the names of several witnesses, he or she will take the stand alone, relying in a measure on the prejudices and sympathies of the jury, and hoping that under the skilful examination of their counsel, the railway's witnesses might be shaken somewhat in their testimony whereby interest or bias may be inferred, and so obtain a verdict against the corporation.

Recently there have been many claims and suits growing out of accidents, resulting, as the plaintiffs allege, from some defective condition of the car or of the track, and usually it is a condition which is incapable of discovery except through the most thorough and methodical examination.

In order that we may meet such a claim for injury resulting from alleged defective condition of the cars, tracks or roadbed, there should be a thorough daily examination of the entire car and its appurtenances, as well as of the roadbed and the track, and a complete and minute record of the same, so that you can turn back and learn the condition of every car as it left the barn on any day; for, ordinarily, litigants who are injured by tripping over a loose rail on the roadbed or a protruding bolt of the step do not commence their actions until some considerable time thereafter. The reason for this is obvious, because if notice is given to the company on the day of the accident, an investigation might be made forthwith, and the examination would probably disclose the fact that the car or track had been out of order but a short time, perhaps for a few hours before, or that it was insignificant, and the defendant would be furnished with a good and substantial defense. On the other hand, if the company is kept in ignorance of the occurrence for several months and it was not the company's practice to make daily examinations and keep records, any search will be without avail after such lapse of time, thus leaving the railway company without any positive evidence for a defense, and open to the maws of medical sharps.

A novel and interesting case, somewhat connected with the question of construction, which recently came to our notice, is that of one Samuel Brown, who claimed that while riding a bicycle along Broadway, the front wheel fell in the cable slot, becoming wedged therein, and throwing him over the handlebars, causing severe injuries. The action was brought as for a nuisance, the evidence being that the usual width of the cable slot was from 5/8 in. to 3/4 in., but at this point, owing to the fact that several lines crossed here, the slot, as it had been originally constructed, was from 1½ ins. to 2 ins. in width, and that it continued for that width for a very short distance. Upon these facts it was contended that the construction of the slot was an unnecessary defect. The defendant tried the case on the theory that it maintained the slot under a special authorization or license from the municipality, and rested its case after proving the special franchise. A motion to non-suit was denied, and the Appellate Division affirmed the decision by a divided court, holding that not only must the defendant prove the authority, but also that the excavation which it claims it was authorized to make was properly made in pursuance of the authority; that if it appears that the opening was made in such a way as to create a nuisance the defendant is not protected by the grant of the authority to interfere with the highway, and that it is still liable for the nuisance, not because it has interfered with the highway without authority, but because it has exceeded its legal right to construct a slot by making it larger than required, and in so doing endangered the safety of the public, and the jury having found the fact that the defendant exercised its authority in a manner other than that permitted by the license, in favor of the plaintiff, the judgment should not be disturbed. In a dissenting opinion it is stated that no evidence having been adduced proving that the slot at the intersection of the several lines was wider than was necessary for the proper management of the road at the location of these switches and no evidence that the municipal authorities had imposed any condition limiting the size of the slot, the bare proof that at the particular point where the accident happened the slot was wider than at any other place was not sufficient to warrant a recovery. The case is now in the Court of Appeals.

A word as to rules. If you have rules for the operation of your road, let them be good ones, and see that they are rigidly enforced. Failure of a master to adopt rules as to precautions to be used by employers does not render him liable for negligence

of servants, unless from the nature of the business the master, in the exercise of reasonable care, should have foreseen the ncessity of such precautions.

If a rule is unnecessary, strike it out, for it can do no good, and may tend to establish a cause of action where otherwise the case would fall. For instance, a rule prohibiting passengers from riding on any particular part of the car should be enforced in each instance, because an invitation to ride in that position may be implied if your servant fails to enforce that rule. So, if passengers are continually permitted to ride on the step or runningboard without notification from the conductor to step up in the car, while the Court of Appeals has held that a person taking such a position assumes any risk incident thereto, which, in the event of injury, will amount to carelessness contributing to such injury, yet if the company has issued an order to its employees to compel passengers to get into the cars and it is not enforced, such rule may be introduced in evidence for the consideration of the jury in arriving at a verdict in support of plaintiff's proof of absence from contributory negligence. Such a rule does the road no good, and the failure to enforce it only assists the jury in finding against the company, and it is quite soothing to the conscience of the juror sentimentally inclined, who believes that there should be no recovery, but so like human nature when dealing with the unfortunate he will grasp at this opportunity presented by the defendant and give the plaintiff a little something. Why lay down a rule as the standard of care or negligence and thus aid the cause of the other side? From our point of view, the principle upon which rules are made is to avoid the charge that the railway is negligent in not making proper rules. So, where the highest appellate tribunal has held that the action of the employee called for in a rule is not necessary, it would seem that to indulge in rule making in relation to that point would be dangerous.

Take the rule: "When passing standing cars, cars must be slowed to a speed where an instant stop can be made." This is an excellent precautionary measure to avoid accidents, but in the event of an injury brought about by a person suddenly appearing on the track from behind another car (and there are many such occurrences), the court will refuse to dismiss the complaint on the ground that your servant violated a rule of care laid down by you, and would allow the jury to find on the question of fact; and it is reasonable to believe that this branch of the administration of justice would find, without much hesitation, that plaintiff relied upon the rule that the car should be stopped "instantly" (thus acquitting the plaintiff of the charge of contributory negligence), and that because it wasn't stopped plaintiff was hurt, and the company pays, in the face of the doctrine that there is no cause of action where a person steps out from behind one car immediately in front of another.

It seems to be the general rule, however deplorable the practice, that litigants seeking damages will make the facts fit the case, and it is quite unnecessary for the railway to facilitate their case.

I can frankly say in this connection that nine out of ten cases which go to trial are cases of non-liability on the part of the railway, but, nevertheless, few are dismissed, owing to the good care and guidance of such combinations heretofore referred to. Plaintiffs and their witnesses have come to believe that either it is no crime to commit perjury against a wealthy corporation, or that in the rush of business the offense will be forgotten, or that our criminal procedure in cases of perjury or subordination of perjury is such as practically to afford immunity against conviction.

As an instance of what chances these persons will take, on Aug. 2, 1892, an action was commenced against the Metropolitan Street Railway Company by John Tamplin, and it appeared upon the calendar for trial about March 7, 1901. The plaintiff's attorney opened negotiations for a settlement on the eve of the trial and a settlement of the claim was arranged. At first the suggestion was made that judgment be allowed for the agreed amount. His proposition being refused, in a day or two this jurist attended at the office, and a general release purporting to be signed by his client and acknowledged by him before a notary public was delivered to us in exchange for a check made payable to John Tamplin, which in due time was returned from the bank properly endorsed. The peculiarity of the signatures led to an investigation, which resulted in the discovery that the injured man had died of consumption in or about 1895. Here they knew plaintiff to be dead, committed, or obtained some one to commit, forgery, both on the release and the check. The notary, who is associated with the attorney, must have violated his oath, someone obtained money under false pretenses and somebody misappropriated trust funds. It can not be claimed that the release was executed prior to plaintiff's demise, for the paper on which it is printed was manufactured in 1900.

This would seem to be about the limit, but here is another: An action was brought on Jan. 23, 1901, which was one day before the expiration of the statute of limitations to recover for injuries sustained, as alleged in the complaint, at Broadway and Twelfth Street, on Jan. 24, 1897. On opening of the trial in February, 1901, plaintiff's counsel moved to amend the complaint by changing the date of the accident. Of course this was a clerical error; it couldn't be that this attorney had any motive in intentionally describing the accident erroneously. However, the motion was granted; the plaintiff testified to having stopped, looked and listened, and it being safe proceeded to cross, when the juggernaut, all teeth and no fender, swooped down from a clear sky and rendered him permanently "sick, sore, lame and disabled." We had no report of the occurrence, but learned, after much inquiry, that on the night of the accident the plaintiff was seen to fall on the sidewalk while in a state of intoxication on Third Avenue, which is two city blocks east of Broadway, causing such injuries as were set forth in the complaint. He was removed from that spot to a hospital in an ambulance. The police officer and ambulance surgeon proved our case. In this case we learned of the facts through the merest chance, there being no blotter report at the precinct station embracing the territory about Broadway and Twelfth Street, because of the erroneous allegations in the complaint.

In conclusion, the honest claim is not to be feared, for all roads expect to pay a percentage of their earnings for accidents, but the dishonest claimant who falls into the hands of cunning and unscrupulous attorneys is to be dreaded, and the aim of all should be to successfully meet such rascality. To that end we should fortify from within with faithful and courteous servants, and try again when apparently unsuccessful in efforts to please the public, for it contains the jurors who sit in judgment. For the same reason we should enlighten the general public, from time to time, in the methods of those practicing dishonesty, and never expect more than an even chance, for justice, though blindfolded, is aware that you have been given perpetual succession, but that you do not prossess a soul.

Report on Rules

Below will be found the report of the committee on a standard code of rules for the government of conductors and motormen, submitted at the annual meeting of the Street Railway Association of the State of New York, at Rochester, Sept. 10 and 11, 1901. The committee consisited of E. G. Connette, of Syracuse; Oren Root, Jr., of New York; J. C. Brackenridge, of Brooklyn; Edgar S. Fassett, of Albany, and J. P. E. Clark, of Binghamton. In explanation of the report the committee says: "The following code of rules for the government of conductors and motormen of the street railways of the State of New York is respectfully submitted for your consideration. Your committee has endeavored to embrace in these rules all of the principal and necessary requirements for the proper and safe operation of street railways, and so that they will be applicable to all roads in the State irrespective of size. These rules do not regulate or embody the method or means of punishment for a violation or for breach of discipline of any character, as local conditions, record of service and nature of the misdeed should govern in each instance. Your committee recommends that when a standard code of rules is adopted by the association, that they should not be changed or altered by any of the street railways that are members of the association without authority and approval of the association. If local conditions should require any additions, they should be placed under the proper heads, using the same rule which relates to that particular subject and affix a letter of the alphabet to the number. For instance, if an addition is necessary to rule No. 50, it should be added as rule No. 50-A, all additions to be reported to the secretary of the association."

GENERAL RULES

1. *Knowledge of Rules.*—Conductors and motormen are required to be familiar with the rules, and with every special order issued. The bulletin board must be examined daily for special orders. Entrance into the service of the company implies acceptance of its rules and regulations, and ignorance of rules will not be accepted as an excuse for neglect or remission of duty. If in doubt as to the exact meaning of any rule or special order, application must be made to the proper authority for information.

2. *Record.*—The length of an employee's service with this company depends upon his record. (This record is made by each man for himself, and whether it is good or bad depends entirely upon himself.) In every case where an employee is under consideration, either for advancement or for discipline, his record is taken

into account. Employees who show an interest in the welfare of the company by obedience to its rules and by careful and competent handling of its cars and property are considered desirable men to retain in the service. Employees who show a lack of interest, by disobedience of and inattention to the rules, or by recklessness and incompetency, are considered undesirable.

All employees will be considered as in line for promotion, provided their abilities and records show them eligible.

3. *Conductor in Charge of Car.*—The conductor is in charge of car, and the motorman is subject to his orders when they do not conflict with the rules or with special orders.

4. *Report for Duty.*—Regular conductors and motormen must report for duty ten minutes before leaving time for their first trip, or, if for any good reason unable to so report, must give notice ten minutes before such leaving time.

Extra men must report at such time as ordered, or must give notice ten minutes before such time. They must not absent themselves after answering roll call without permission.

5. *Personal Appearances.*—Motormen and conductors must report for duty clothed in full regulation uniform, and must be clean and neat in appearance.

6. *Politeness.*—Treat all passengers with politeness; avoid difficulty, and exercise patience, forbearance and self-control under all conditions. Do not use uncivil, indecent or profane language even under the greatest provocation.

7. *Habits and Personal Conduct.*—Drinking intoxicating beverages of any kind, or entering any place where the same is sold as a beverage; carrying of any intoxicating drink about the person or the bringing of same on to the premises of the company; or smoking tobacco *during hours of duty*, or, the constant frequenting of drinking places or entering such places wearing uniform, or the indulgence to excess in intoxicating liquors, *when off duty*, is positively prohibited.

Smoking is not permitted on any part of the company's premises, except in the rooms set apart for use of motormen and conductors.

All forms of gambling, including bets and raffles, are forbidden upon the premises of the company.

8. *Correct Time.*—Conductors and motormen will keep their watches set to Eastern Standard time.

9. *Run on Time.*—Cars must never be run ahead of schedule time, but must pass time points, and leave terminals, promptly on time unless unavoidably delayed.

10. *Report Reckless Running.*—Reckless running or handling of car by motorman must be promptly reported by conductor to foreman or inspector.

11. *Railroad Crossings.*—Cars must be brought to a full stop, at a safe distance, at all steam railroad crossings at grade, and motormen must not proceed until conductor has gone ahead to the center of crossing, looked both ways, and given the "Come-ahead" signal; but before starting the motorman will look back to see that no passengers are getting on or off; and in no case proceed even after conductor's signal until you also have examined the crossing.

When there is more than one track, the conductor must be in advance of the car until the last track is reached.

12. *Current Off or Blockades.*—In the event of current being off the line, or blockade of cars from any cause, the car will not be started until the one ahead has gone at least 300 ft. The starting of a number of cars at the same time at one point on the line is injurious, hence the necessity of a careful observance of this order.

13. *Passenger Cars.*—Cars must not pass on curves. Meeting points on cross streets are strictly forbidden.

Never run against a switch point when meeting a car, but slacken the speed of your car and allow the car moving in the opposite direction to pass before striking switch point. This rule refers particularly to all cross-overs and curves having switch points facing opposite to that in which your car is going.

14. *Returning Property of Company.*—Employees, when leaving the service of the company, must sign receipt for their final pay and return to the company all the company's property with which they have been entrusted.

15. *Discharged Employees.*—Any employee discharged from the company's service will not be re-employed in any other department without the consent of the head of the department from which he was dicharged.

16.—*Hearing by Superintendent.*—A hearing by the superintendent awaits every employee who has any grievance to make, and reports or suggestions for the betterment of the service will always receive consideration.

RULES FOR CONDUCTORS

17. *Conductor on Rear Platform.*—When not collecting fares, conductors must remain on the rear platform to keep a vigilant lookout for passengers on both sides of the street. They must also keep careful watch of passengers in car to note requests to stop for those desiring to leave car, and must be careful to remember requests of passengers to stop at points ahead, stopping car and notifying such passengers when the point is reached.

When car is standing conductor must be on rear platform as much as possible to give information to passengers.

When stops are made at principal streets, places of amusement, churches, or at any point where a considerable number of passengers enter or leave the car, conductors must be on rear platform until such point is passed.

18. *Care of Cars.*—Conductors must report to foreman or inspector any cars not in first-class condition for service. Running gear must be in good order, doors roll easily, windows, lamps, floors, etc., be clean. Conductors must keep papers and rubbish picked up, lights burning after dark, cars properly ventilated and curtains or blinds raised or lowered to give proper shade from sun. At the end of route, where necessary, they must change gates, assist motormen in changing signs, turn seats on open cars, etc. In general, they must see that cars are in good order, neat and clean. In cold weather front doors and windows must be kept closed, and rear doors as much as possible.

19. *Reporting Defects.*—Conductor will report to foreman or inspector any defect in car, track or wire which needs immediate attention, and make written report of same to superintendent at end of run.

20. *Removing Trolley.*—Conductors will not remove trolley from wire at end of run or elsewhere, at night, until passengers have alighted from car.

21.—*Announcements.*—Conductors will announce the names of streets, public places and transfer points when approaching the same.

22. *Route Signs.*—Conductors must see that route signs are properly displayed on each half-trip.

23. *Carrying Packages.*—Passengers must not be allowed to bring bulky packages aboard cars.

Conductors must not, in any way, assume responsibility for any package which a passenger may bring on to a car.

24. *Watching the Trolley.*—Conductors must be on the rear end of their cars when passing over switches, crossings or going around curves, with hand upon the trolley rope. Should the trolley leave the wire, the conductor must at once pull down the trolley and signal the motorman to stop. After the car has stopped, replace the trolley on the wire, ring two bells for the motorman to start, first looking carefully around and through the car to see if any persons are leaving or boarding same. They must see that passengers keep their hands off of trolley cord.

25. *Keeping Gates Closed.*—Front and rear gates on closed cars on the side between the tracks must always be kept closed and securely fastened when running on the road. On open cars the chains and rods must be kept fastened on the side between the tracks. When gates or chains or their fastenings are broken or out of order, conductor must report it to foreman or inspector.

26. *Feet Off Seat.*—Do not permit passengers to put their feet on the seats.

27. *Leaving Car.*—Never leave your car to make returns at the office or for other purposes without notifying the motorman, to insure safety of passengers and care of car.

28. *Housing Cars.*—When car is run in the house in the day or night, always shut off lights, remove trolley from the wire and turn up seats of closed cars before leaving car.

29. *Grades.*—When on down grade you must be ready to apply brake in case of accident.

30. *Moving Forward.*—On closed cars, when standing passengers crowd the rear door, you will request them to please step forward in car.

31. *Seating Passengers.*—Standing passengers should be directed to vacant seats if any.

32. *Assisting Passengers.*—Elderly and feeble persons and women with children should be given assistance getting on and off car when possible.

RULES FOR MOTORMEN

33. *Stopping for Passengers.*—Motormen must keep a careful lookout on both sides of the street and bring the car to a full stop for every person who signals, except that when a car has considerable headway, is overcrowded, and another car with more room, follows within the same block (or 200 ft.), the motorman may request passengers to take the following car.

Cars will stop on signal at corners only, on further crossing; at car stations; transfer points, and in front of places of amusement and churches, and at points provided in special orders.

Do not stop car so as to block cross streets or crosswalks.

34. *Churches and Hospitals.*—When passing a church during the

hours of service, and at all times when passing a hospital, do not use the current or ring the gong when it can be avoided.

35. *Reversing Car.*—Never use the reversing lever to stop car except to avoid a collision or running over a person or animal, or when the brake rigging is disabled.

Do not reverse the power when brake is set, but first release the brake (if it is set) and reverse the power simultaneously and when the reverse lever is thrown to position apply the current one point at a time, otherwise the fuse will melt or the breaker will release. Sand should be used when making an emergency stop.

36. *Leaving Car.*—Motormen must never leave platform of car without taking controller handle with them, throwing off the overhead switch and applying brakes. They must be careful to see that the hands point to the "off" mark before taking off controller handle.

37. *Economical Use of Current.*—In order to effect an economical use of the electric current, it is necessary that the continuous movements of starting and changing speed should be made gradually. An economical start does not jerk a car, and is thus important from a good-service standpoint.

38. *Saving Power.*—When starting car let it run until the maximum speed of each notch has been attained before moving handle to the next notch.

Do not apply brakes when the current is on.

Do not apply current when brakes are applied.

Do not stop on curves except where there is a foot walk, and only then when the street is muddy.

Do not allow the current to remain on when car is going down grade. Endeavor to run car with the least amount of current, allowing the car to roll without the use of the current when it can be done and maintain schedule time.

Motormen can save a great amount of power by using some judgment and discretion in approaching stopping places and switches by shutting off the power so as to allow the car to roll to the stopping place or switch without a too vigorous use of the brake.

39. *Throwing Overhead Switch.*—An overhead switch must never be thrown unless power handle is turned entirely off, and must be thrown by hand only.

40. *Removing Handles.*—Motormen must never leave platform, even for an instant, without throwing off the overhead switch and taking off both handles.

When any unusual delay occurs, overhead switch must be thrown off.

41. *Power Off Line.*—When the power leaves the line, the controller must be shut off and the overhead switch thrown, the light switch turned on and the car started only when the lamps burn brightly.

42. *Release Brakes Before Stop.*—When brakes are set to make a stop they should always be released, or nearly so, just before the car comes to a standstill.

43. *Water on Track.*—When there is water on the track run the car very slowly, as there is danger of burning out the motors.

44. *Sanded Rails.*—Never run on freshly sanded rails with brakes full on, except to prevent an accident, as the wheels are liable to be flattened when this is done. On cars provided with sand-boxes, in case of slippery rail, always sand the track for a short distance before applying the brakes.

45. *"Spinning" of Wheels.*—During snow storms much damage is done by "spinning" of the wheels with no forward or backward movement of the car. When the car is "stalled" trainmen will clean the rail before or behind the wheels, and thus avoid this damage.

46. *Don't Slide Wheels.*—On a slick rail motormen must not allow wheels to slide; as soon as the wheels commence to slide the brake must be released and reset.

47. *Don't Oil Car.*—Motormen must not oil or grease any part of a car.

SIGNALS AND THEIR APPLICATION

The following code of bell signals will be used in the operation of cars:

48. *Bell Signals.*—From conductor to motorman.

1 Bell—"Stop at next crossing or station."

2 Bells—"Go ahead."

3 Bells—"Stop immediately."

3 Bells, given when car is standing, "Back car slowly."

From motorman to conductor.

1 Bell—"Come ahead."

2 Bells—"Watch the trolley."

3 Bells—"Throw cut-out switch on rear end of car."

4 Bells—"Set brake."

5 Bells—Warning—"Pull trolley down to roof."

All of the above signals are to be given on the conductor's signal bell.

When the car is standing and motorman desires to back, for any reason, he will give the conductor three bells, but must not move the car until the conductor has answered with three bells to signify—"All is clear behind."

Whenever a car in service is stopped the motorman will, as soon as he is ready to go forward, give two taps of the gong; after which, if the conductor is ready to proceed, he will give the regular "go ahead" signal—two bells.

The motorman will answer the signal to stop from conductor by one loud tap of gong; also two loud taps of gong after receiving the signal to go ahead.

49. *Lamp and Flag Signals.*—A lamp swung across the track is a signal to stop.

A lamp raised and lowered vertically is a signal to go ahead.

A lamp swung vertically in a circle across the track, when car is standing, is a signal to back up.

A flag or the hand moved in any of the directions given above will indicate the same signal as given by lamp.

50. *Danger Signals.*—Red lights or flags indicate danger, and when they are placed alongside the track cars must be run slowly and with caution. When placed on the track, cars must come to a full stop until such signal is removed.

51. *Signal Before Passing Obstructions Near Track.*—Before passing any vehicle or obstruction close to the track, where passengers or conductor are liable to be injured while standing on the step of an open car, motorman must give two taps of bell as warning.

52. *Starting.*—Motorman must never move car (whether stopped on signal or for any other reason) without signal from conductor, and then only when assured that no one is getting on or off front platform.

Conductors must never give signal to start unless they can see rear steps, and know that passengers leaving car are clear of same, and that passengers boarding car have both feet on rear platform. They must be careful not to give start signal when passengers approaching are close to car and about to board it.

Conductors must never give signal to back a car unless he is on rear platform and knows track is clear behind the car.

53. *Passengers Ring Bell.*—Passengers have a right to ring the bell to stop a car, and conductors should bear this in mind. They must, however, try in a polite way to discourage passengers from doing so.

PRECAUTIONARY RULES—ACCIDENTS

54. *Safety.*—The safety of passengers is the first consideration. All employees are required to exercise constant care to prevent injury to persons or property, and in all cases of doubt take the safe side.

55. *Persons Between Cars.*—In case there are persons between tracks, cars moving in opposite direction must not pass. One car must stop until such persons have crossed the tracks.

56. *Fire Patrols.*—When any fire department vehicle or company patrol is observed approaching in any direction, cars must be stopped until such vehicle has passed.

57. *Ambulances.*—Ambulances must be allowed right of way, and when approaching or passing, cars must be kept under complete control to avoid collision.

58. *Warning to Passengers.*—Conductors and motormen must, in a polite way, endeavor to keep people from jumping on and off cars while in motion. If they attempt to get on or off the car while it is in motion, call out to them: "Please wait until the car stops." When passengers are alighting from your car and you see a car approaching in an opposite direction, notify them politely to look out for car on other track. In approaching curves they must always give the warning to standing passengers, "Hold fast."

59. *Standing on Steps.*—Do not permit anyone to stand on the steps when there is room inside the car or on the platform, and never, under any circumstances, permit a woman or child to ride on the steps. They should be fully inside of the car before the signal is given to start.

60. *Exercise Care.*—Motormen are cautioned to exercise great care when a vehicle is passing alongside of track ahead of car. Ring the gong vigorously to attract the attention of the person driving, as a warning not to pull in ahead of car; and *run guardedly* until vehicle is passed in safety.

61. *Drivers of Vehicles in Danger.*—Whenever persons or vehicles ahead of the car are in a dangerous position, do not rely upon them to get out safely, but get the car under full control or stop at once.

62.—*Passing Cars.*—When passing standing cars gong must be rung and car slowed to a speed where an instant stop can be made.

63. *Handling Car with Care.*—Motormen must avoid starting or stopping car with a jerk; slacken speed on entering and going around curves so that passengers standing on rear platform will not lose their foothold.

64. *Steps Clear of Persons.*—Conductors must see that the steps or running board are clear before giving the "Go ahead" signal.

65. *Care at Crossings.*—When cars stop at railroad crossing and conductor has gone ahead to flag the car across, motorman must not start car until he knows that the step and running board are clear of passengers getting on or off.

66. *Drop Fender First.*—When it becomes apparent that there is liable to be an accident, such as a collision with a vehicle or person; or when in the judgment of the motorman an accident can not be avoided, always drop the fender before reversing power, or making any effort to stop the car.

67. *Render Assistance.*—In case of accident, however slight, to persons or property, in connection with or near any car, the motorman and conductor in charge of the same will render all assistance necessary and practicable, and make the best of the situation. In no case will they go away leaving injured persons without first having seen that they are cared for.

68. *Medical Attendance.*—Motormen or conductors will not authorize medical attendance, except for the first visit in severe cases of personal injury; nor will they visit injured persons at any time afterward, unless specially instructed so to do by an officer of the company.

69. *Fatal Accidents.*—In the event of a fatal accident, it will not be necessary to blockade the line awaiting the arrival of the coroner or any other official. If any accident occurs where it is impossible to carry the body to a place of shelter and security, motorman and conductor will put the body on the car and carry it to some suitable place.

70. *Reports to Be Full and Complete.*—A full and complete report of every accident, no matter how trivial apparently, and whether on or near the car, will be made by the conductor, as accidents, which the conductor may not consider worth reporting, are often the most serious, troublesome and expensive.

In all cases full data must be obtained and stated in the report as follows:

The date, exact time, exact place, run and car number and the direction in which the car was moving, the nature of the accident or collision and the cause of its occurrence.

The full name and address of the party injured or whose vehicle was in collision (giving the name of both the driver and the owner of the vehicle).

Ascertain the extent of injuries or damages, if any, before leaving the spot.

In case there has been an accident on the car and the conductors change ahead, the conductor taking the car on which the accident happened must secure the name of witnesses as above.

In case a person is struck by a car after passing around the rear of a standing car, the numbers of both cars must be obtained.

If accident is caused by any defect or damaged condition of car, conductor must report same.

Accidents to employees will be reported the same as accidents to passengers.

The conductor will obtain the name and residence in full of all witnesses on or near the car.

The motorman will assist the conductor in securing the names of witnesses whenever practicable, and he will be held jointly responsible for the observance of this rule.

Any trouble or disturbance of a boisterous or quarrelsome character which occurs on a car or the ejectment of a person from a car will be reported as an accident.

71. *Report Accidents to Inspectors.*—Conductors and motormen will make a verbal report to the first inspector or official of the company they meet of any accident, blockade or mishap of any kind.

72. *Give Information to Proper Persons.*—No employee shall, under any circumstances, give any information whatever concerning any accident, delay, blockade or mishap of any kind to any person except to a properly authorized representative of the company.

73. *Telephone Information.*—In case of a serious blockade, where assistance is required to get cars moving, conductor of car first in block must, in absence of any inspector or official, telephone at once to nearest depot and give notice and particulars of block. Expense of telephone message will be refunded upon application at office.

74. *Responsibility for Damages.*—Employees will be held strictly accountable for any damages caused by their neglect or carelessness, or by disobedience of rules. The company reserves the right to charge employees for such damages.

75. *Disabled Cars.*—The motorman or conductor of any disabled car, withdrawn from the track, must remain with the car until relieved by proper authority, or until car reaches depot.

EJECTMENTS

76. *Using Force.*—When ejectment is made, the passenger should be conducted to the steps and requested to alight, or assisted down the steps to the ground with care.

Force should never be used in ejecting a passenger from a car unless it becomes absolutely necessary. When force is necessary, conductors must be very careful to use only such force as is necessary to put the passenger off the car, and should never strike a passenger, nor in any way use violence.

77. *Refuses to Pay Fare.*—When a passenger refuses to pay fare he should be requested to leave the car when the car has been stopped. If he fails to comply with such request within a reasonable time, he should then be put off the car with the care above specified, but if a conductor is not sure whether or not a person has paid fare, and passenger insists that he has paid, he must be allowed to ride. This rule also applies to a passenger who presents a defective transfer and refuses to pay cash fare when demanded. (See Rule No.... regarding transfer tickets.)

78. *Use Persuasion.*—When ejecting a passenger, all means to persuade him to leave the car without assistance from the conductor should be used before taking hold of the passenger.

79. *Profanity and Fighting.*—Any person who uses profane language, or who fights or offers to fight, on a car, to such an extent as to frighten or endanger other passengers, must be ejected.

80. *Intoxication.*—No person will be ejected from a car for mere intoxication, unless he becomes dangerous or offensive to the other passengers; then he must be ejected with great care and must be guided until free from probable injury from the car.

81. *Dogs.*—No dogs or other animals are allowed on a car without a permit. If any person insists on carrying the same within a car, he should be requested to leave the car, or to put the animal off the car; if he refuses so to do he will be ejected.

82. *Stealing Rides.*—Any person caught stealing a ride on a car will never be pushed from car while car is in motion. When a person who refuses to pay fare requests that he may be allowed to leave car, the car must be stopped and the person permitted to alight.

83. *Spitting.*—No passengers will be ejected from the car for spitting on the floor. When a passenger's attention has been called to the rule prohibiting spitting, if such passenger persists in disobeying the rule, the conductor will call the nearest policeman and have said passenger arrested.

84. *Get Witnesses.*—In case of ejectment, always get names of witnesses, the same as in case of accident.

85. *Where to Eject.*—Any person ejected from a car must be put off at a regular stopping place.

No passenger will be put off at a point where he will be exposed to danger.

Particular attention must be paid to this rule during bad and inclement weather, late at night, or when a passenger is intoxicated.

FARES AND TRANSFERS

86. *Collection of Fare.*—As soon as a passenger is seated, conductor must collect fare. When more than one passenger or party enters at a time, each fare must be collected separately and rung up on the register in the presence of the party who paid it, before any more fares are collected. Several fares must not be collected and rung up in a bunch. Conductor must ring each fare from the place where he collects it. Thus, a fare paid inside of car, or on platform, must be rung up inside of car or from platform, as the case may be.

Do not collect fare when approaching any railroad crossing, curves, switches or transfer points.

87. *Change.*—When necessary to give change, conductors must first register fare, and immediately thereafter give change.

88. *Note Total Register.*—Conductors will, before taking the car from the car house, note the "total register" on their trip-sheet, and do the same when returning the car to the house; also when being relieved. At all changes during the day the conductor taking the car will, in the presence of the conductor leaving the car, decide on register number, mutually agreeing as to its exactness; this, in order that there may be no discrepancy in their reports. On being relieved, note the relieving conductor's number or name on the trip report.

89. *Turning Back Register.*—Turn the register back at the beginning of each half-trip; not before, so as to indicate in which direction the car is going. When the relief is at other than terminal points, collect and register all fares as usual, but do not set the register back until the end of the line is reached. The conductor who is relieved will have all fares collected and transfers issued before leaving the car.

90. *Register Rings.*—Conductors must be careful to see that register rings each fare, and that dial shows it.

91. *Register Out of Order.*—In case the register gets out of order

the conductor must stop using it, make memorandum of fares on back of trip report, and report the fact to the first inspector or starter met on the road or at the station.

92. *Transfer Tickets.*—In accepting transfer tickets where the time limit has expired, or where the ticket is presented on a date later than that punched, conductors must use judgment as to the action to take. If it is clear to the conductor that the person presenting same is endeavoring to secure transportation where not entitled to it, he should not be allowed to ride without payment of fare; but if there is any fair reason to believe that the error is on the part of the conductor or agent who issued the ticket, or that the time limit has expired on account of a blockade, the passenger should be allowed to ride.

93. *Transfers in Blockades.*—In case any line is blocked, it is the desire of the company to carry passengers to their destination on other lines. Under such circumstances conductors of parallel or intersecting lines will accept transfer tickets accordingly, and will issue a transfer on a transfer if necessary. They will also accept transfer passengers without tickets on orders from any inspector or authorized representative of the company.

94. *Transfer Point Meetings.*—Motormen and conductors will be held equally responsible for leaving a transfer point when a car of the connecting line is approaching so as to prevent proper transferring of passengers.

Traffic Records Broken in Cleveland

Every traffic record for the street railway lines of Cleveland and the interurban lines radiating from that point was broken during the G. A. R. convention in that city, Sept. 9 to 13. Not only were all records broken, but it is safe to say that the figures reached during that period will not be approached for a number of years, unless under extraordinary circumstances. There were fully 350,000 strangers in the city during the week. Thousands of the visitors were provided lodgings in the school buildings in the outlying sections of the city, so that they used the cars many times during the week, while probably all of the strangers utilized the cars in visiting the various points of interest. Had there been continued fine weather, the traffic would doubtless have been larger, but as it was the roads were taxed to their full capacity. The arrangements made by both of the city lines were admirable. The Cleveland Electric Railway doubled its schedule on all lines, while on the Euclid Avenue (the most popular because it leads to Garfield's Monument) a one-minute, and one of the days a half-minute, schedule was maintained. The Cleveland City Railway operated about 225 cars, and the Cleveland Electric about 300; on one of the days this was increased to 325.

The arrangement of the roads in Cleveland, all of which center at the Public Square, made it extremely difficult to keep cars constantly in motion at the congested point. Both companies had large forces of inspectors and despatchers constantly in attendance at congested points, and by good work cars were kept moving all the time. On Ontario Street, between the Square and Prospect Street, cars passed at the rate of one every 30 seconds. Announcers were stationed at all the crosswalks in the business portions of the city, whose duty it was to announce the routes of the cars and assist passengers aboard as quickly as possible.

In order that conductors might not be troubled with unnecessary questions as to routes and streets, the Cleveland Electric Railway maintained an information bureau in the Square. Here several attendants were kept constantly busy giving information. Directions were written out on a card, which was handed to the questioner with a neat folder giving a map of the city, with the routes of the various lines and the points of interest on each. Many thousands of these were distributed, in addition to which the company presented many of the visitors with a handsome souvenir booklet. These were in great demand, and they proved an excellent advertisement for the company.

At the power houses of both companies every available piece of machinery was called into service. The contractors for the new storage-battery station of the Cleveland Electric managed to complete it on Monday evening, Sept. 9, and it assisted greatly in taking care of the load. On Wednesday afternoon, Sept. 11, the power house of the Cleveland Electric Railway was loaded to its full capacity.

Neither of the companies has compiled full returns of the receipts for the entire week, but it is figured that from Sunday to Friday, six days, the Cleveland Electric carried 1,250,000 passengers, while it is probable that the Cleveland City Railway carried at least 800,000. The report of the Cleveland Electric Railway for the five big days of the convention follows:

		Gain over same day last year.
Monday, Sept. 9	$10,143.00	$4,000.00
Tuesday, Sept. 10	14,036.38	8,296.42
Wednesday, Sept. 11	15,528.00	9,861.75
Thursday, Sept. 12	11,443.04	5,786.80
Friday, Sept. 13	9,729.65	4,626.95
Total Convention Week	$60,880.07	$32,571.92

On Wednesday, the big day of the convention, the Cleveland Electric carried 342,000 passengers, not including transfers, compared with 187,000, the previous high-water mark.

The Annual Report of the Union Traction Company of Philadelphia

The annual meeting of the Union Traction Company, of Philadelphia, was held Wednesday, Sept. 18, and the annual report of the company was presented at the meeting, and the directors were re-elected to serve for one year. President John B. Parsons, of the company, in presenting the report, said in part:

"The increase in receipts from passengers is considerably less than in the report for the previous year, owing to the fact that in the fall of 1899 the Export Exposition and other similar features brought the road considerable gross earnings. The increase in operating expenses is due to increase in wages of employees."

Mention of the new line completed by the company during the past year is made, the lines now under construction are referred to, and mention is made of the increase in the power facilities of the company. Continuing, Mr. Parsons says: "Six per cent and 7 per cent bonds of the underlying companies, aggregating $324,500, fell due and were replaced with 3½ per cent bonds.

"The property of your company is in first-class condition. The streets upon which your tracks are laid have been kept in thorough repair and condition; many betterments to your property have been made during the year under review, the cost of which has been charged direct to the operating account."

The operating report for the year follows:

Year ending June 30	1901	1900
Gross receipts	$13,269,465	$12,996,297
Operating expenses	5,836,186	5,624,905
Earnings from operation	$7,433,279	$7,371,392
Receipts from other sources	162,215	253,528
Gross income	$7,595,495	$7,624,921
Fixed charges, tax, license, etc	6,734,228	6,686,899
Net earnings	$861,267	$938,022

The general balance sheet, dated June 30, shows:

Assets	1901	1900
Cash	$194,608	$216,582
Cash in agents' hands	20,000	20,000
Fire insurance fund	242,995	242,995
Advanced to leased lines	5,880,573	5,556,839
Supplies	190,709	277,285
Construction and equipment	3,847,868	3,227,232
Real estate	432,275	398,586
Accounts receivable	27,273	30,518
Stocks and bonds	5,584,091	5,516,758
Franchise account	90,248	90,248
Total	$16,510,640	$15,583,046
Liabilities		
Capital stock	$10,499,912	$10,499,912
Increase fire insurance fund	12,400	13,305
Accounts payable	111,466	140,701
Accrued maintenance account	382,265	274,255
Fixed charges and taxes not due	1,450,203	1,331,693
Open accounts	800,000	1,731,473
Open accounts leased lines	1,004,102	.....
Deposits underlying companies	215,790	231,215
Trustee accounts	120	176
Profit and loss	2,034,381	1,360,313
Total	$16,510,640	$15,583,046

The Annual Report of the American Railways Company

The annual report of the American Railways Company, of Philadelphia, for the year ending June 30, 1901, has just been made public. The report shows that the net income for the year was $226,106, equal to over 6 per cent on the capital stock of the company, and it is also showed that, in addition to the dividends declared by the subsidary companies, they earned undivided income fully equal to an additional 1 per cent on the stock of the American Railways Company. The subsidiary companies, with one exception, each yielded a handsome increase in gross earnings, the total increase for the year being $66,255. Two of the subsidiary companies, not being owned until March, 1901, the whole of these earnings did not inure to the American Railways Company. Many important improvements were made in the various properties of the company, the most important being those made in the city lines at Jolict and the construction of the new line from Joliet to Chicago. This road has just been placed in operation, its construction being greatly delayed by the inability of the company to secure the necessary material to prosecute the work. The total mileage of the various properties of the company, on June 30, 1900, was 91 miles, while on June 30, 1901, the total number was 162.9 miles, showing an increase of 71.9 miles. The general report of the company follows:

REPORT FOR FISCAL YEAR ENDING JUNE 30, 1901

INCOME

Interest on bonds owned by the company....	$35,041.58	
Dividend on stocks owned by the company..	160,124.15	
Miscellaneous income	79,458.08	
Gross income		$274,623.81

DEDUCTIONS FROM INCOME

General expenses	$37,741.26	
Printing and registration of stock, stamp tax.	4,957.41	
Expense, legal	897.42	
Taxes	4,187.75	
Depreciation of office furniture and fixtures and of engineering department instruments	733.52	
Total deductions from income.....		48,517.36
Net income		$226,106.45
Dividends paid		112,530.00
Surplus		$113,576.45
Profit and loss account, balance June 10, 1900	$94,736.58	
Less item of expense belonging in year ending June 30, 1900, not ascertained in that year	2,000.00	
Surplus as of June 30, 1900.....		92,736.58
Surplus June 30, 1901.....		$206,313.03

GENERAL BALANCE SHEET—JUNE 30, 1901

ASSETS

Total cost of stocks and bonds owned by the company	$3,414,849.69
Bills receivable, accounts receivable, etc.....	164,409.23
Tax on capital stock paid from July 1, to Dec. 31, 1901	1,687.75
Office furniture and fixtures.....	2,502.08
Engineering department instruments.....	108.00
Discount on loans, paid but not due.....	1,555.54
Dividends on stock owned, declared but not due.....	31,681.00
Du Page Construction Company, advances.....	1,603,702.01
Port Norris extension, Bridgeton & Millville Traction Company	4,870.74
Cash on hand.....	71,041.94
	$5,296,407.98

LIABILITIES

Capital stock	$3,751,000.00
Bills payable	1,225,000.00
Bills audited but not paid.....	20,630.70
Accident insurance fund.....	20,294.05
Interest accrued but not due.....	1,350.02
Balance due sub-companies.....	71,820.18
Profit and loss, surplus as per operating report.....	206,313.03
	$5,296,407.98

The following are the railway properties controlled by the company: Springfield Railway Company, of Springfield, Ohio; Bridgeton & Millville Traction Company, Bridgeton, N. J.; People's Railway Company, of Dayton, Ohio; Chicago & Joliet Electric Railway Company (city line), in Joliet and to northern limits of Lockport, Ill.; Chicago & Joliet Electric Railway Company—extension from Lockport to Cook County line, Ill.; Chicago & Desplaines Valley Electric Railway Company, from Will County line to city of Chicago; Altoona & Logan Valley Electric Railway Company, of Altoona, Pa.; City Passenger Railway Company, of Altoona, Pa. The following are the light and power companies controlled by the company: The Springfield Light & Power Company, of Springfield, Ohio; Bridgeton Electric Company, of Bridgeton, N. J.

Chisholm & Moore at the Pan-American

The attractive exhibit of Chisholm & Moore in the Machinery and Transportation Building, Pan-American Exposition, consists of apparatus and material, all of which is of interest to street railway men, and especially to those about to equip repair shops with rapid hoisting apparatus. The principal feature of the exhibit is a pneumatic traveling crane of 5 tons capacity, operated by one of their recently patented pneumatic switchboards, which enables a person to operate it either from a cage attached to the crane or from a station on the floor. With this device one person can operate any number of cranes from the same station. The crane they have on exhibition is supported on I-beams resting upon the top of four iron columns 12 ft. in height. It is 18 ft. in length, and travels a distance of 20 ft.

Other exhibits are four pneumatic wire-rope hoists of 1½ to 10 tons capacity; eleven "Moore's" differential anti-friction hoists of one-half to 15 tons capacity; six "Direct" chain hoists of one-fourth to 3 tons capacity; three trolleys—one combined geared yoke with a 2-ton block attached, one geared trolley, and one plain trolley; two stationary pneumatic motors—one running and one open to show the different parts; two pneumatic drills—one of three cylinders and one of two cylinders; thirty-five American standard rail joints, for tee and girder rails for sections 40 to 100 lbs.; rail and curve braces, malleable castings, etc. The pneumatic crane, hoists, motors and drills are at all times in operation, giving parties interested an opportunity to see them in motion.

A Prosperous Electrical Machinery Business

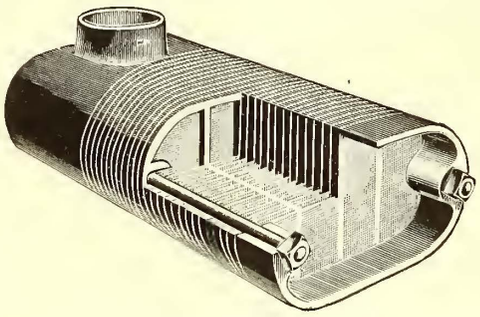
The many friends of Rossiter, MacGovern & Company, of New York, will be glad to learn that certain changes have been made in the personnel and financial equipment of the company that will place this well-known house in a better position than ever before to carry on its extensive business of buying and selling electrical and steam machinery. Announcement has recently been made of the election of Clinton L. Rossiter, formerly president of the Brooklyn Rapid Transit Company, to the presidency of Rossiter, MacGovern & Company, and that the capital stock of the firm has been materially increased. Mr. Rossiter has taken a large interest financially by securing a portion of the increased stock, and will devote a part of his time in assisting in the administration of the company's affairs.

The company plans to extend and enlarge the scope of its business, and has already established a branch office and warehouse in St. Louis, and is about opening another like establishment, as a second branch office, at Cincinnati. These branches are established for the purpose of enabling the company to come in closer touch with customers in that vicinity, and make more prompt deliveries.

Mr. Rossiter's great executive ability, his wide acquaintance and his experience as president of one of our largest street railways gives him a thorough knowledge of the railway situation and the immense possibilities of the development of street railway enterprises. Of Vice-President Frank MacGovern, whose genial personality is known to nearly every street railway man in the country, it need only be said that he will continue to devote to the firm the same untiring energy that has marked him in the past. Starting at an early age, Mr. MacGovern has built up a phenomenal business in street railway machinery by his remarkable ability and by his great popularity in the trade. He has always been a familiar figure at street railway conventions, and at the New York meeting of the American Street Railway Association this year an additional reason for congratulation is offered to his numerous friends by the recent expasion in his financial prospects.

The Potter Mesh Separator and Superheater

The most radical and important peculiarity of the Potter separator is that it is designed to be placed in the steam space of the boiler or in the dome, thereby dispensing with the usual piping for the separator. The separator, an engraving of which, with one section cut away, is shown herewith, consists of a number of metal bands with a piece of wire cloth between each pair supported by heavy end castings. The whole is bolted together and fitted to the steam outlet inside of the boiler. The shape of the separator



THE POTTER SEPARATOR

can be altered to suit any conditions. The separator being placed inside the boiler no return traps or drain pipes are necessary. The explanation of the action of this separator is that the steam, in passing through the wire gauze, has its moisture broken up by the successive layers of gauze, until upon the application of a little heat the moisture is in shape to be flashed into steam again. This heat is obtained by a small amount of wire drawing, which reduces the pressure about 1 per cent. The layers of wire mesh also reduce the drag on the water in the boiler at the point of outlet and reduce the tendency to suck up foam. The Potter separator has a long list of users among large and small steam plants. It is manufactured by the Potter Separator Company, New York.

New Pipe-Cutting Plant

The Crane Company, New York, a branch of the Crane Company, Chicago, manufacturer of valves, fittings, pipe, etc., has added to its already large quarters a plant for the cutting, threading and flanging of large and small pipe and for pipe bending. It is located at 497 to 505 Cherry Street, connecting in the rear with the pipe storage warehouse at 742 and 744 Water Street, and being opposite the main warehouse at 490 and 502 Cherry Street. Being directly on the East River, and very easily accessible to lighters, it is in an exceptionally convenient location for handling heavy work. The building is 125 ft. x 100 ft., the main shop being 110 ft. x 63 ft., and devoted to the cutting, threading and flanging of large pipe. The rear shop is devoted to the handling of small pipe and to pipe bending. A paved driveway runs through the building at one end from the pipe storage yard to Cherry Street. The pipe is brought from the yard to the machine on trolleys with air lifts, and, when ready, is loaded into the trucks in the same way. There are thirteen pipe machines in the main shop, and in addition to these there are machines for screwing up flanges of all sizes and facing lathes for refacing flanges after they are screwed on. Its convenient location and large and distinctly modern equipments make it fully equal to any shop in the East for the handling of pipe work, and practical sketch work, which is made a specialty.

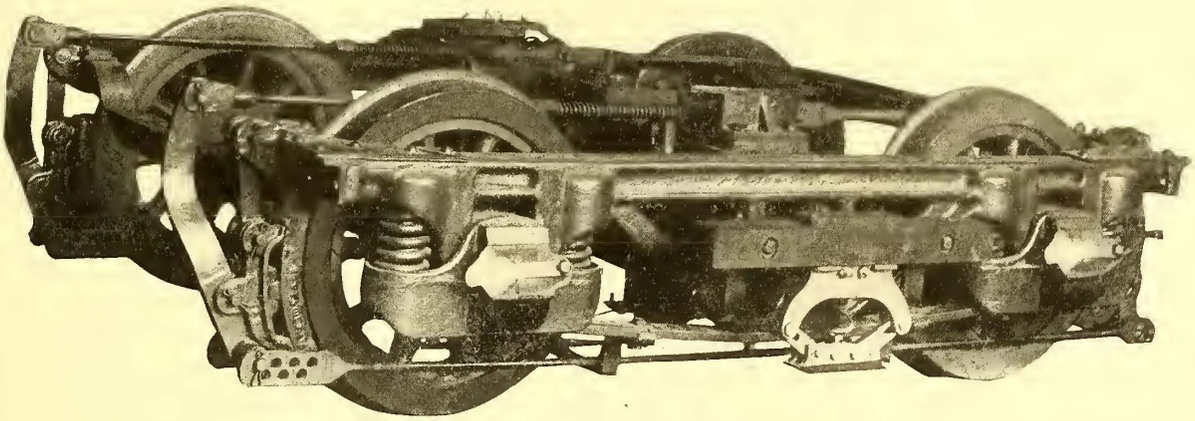
The Heil Cast Welding Outfits

As previously noted in the columns of the Street Railway Journal, the Heil Rail-Joint Welding Company, of Milwaukee, has recently entered the cast welding field. An engraving of one of its new cupolas is shown herewith. This cupola can be run either by electricity or steam. It has a capacity of 10 tons of iron in six hours. It is claimed that 25,000 to 50,000 joints can be cast from this cupola before extensive repairs are needed. The cupola has a heavy sheet steel shell, and is equipped with a 30-in. blower, with a 6-in outlet. The electric motor furnished is of 2½ hp, running 1800 r. p. m., and with which a Cutler Hammer automatic rheostat is supplied. The cupola is mounted on a heavy steel frame, and is supported on eighteen-leaf springs. The running gear has 2½-in. axles and wheels, with Archibald patent hubs and tires 6 ins. wide. Special provisions are made for catching slag or iron. The receiving pan, on wheels below the cupola, prevents the iron or slag from running out and injuring asphalt pavements. It is intended to be drawn by three horses abreast. The platform around the cupola has a carrying capacity of 3000 lbs. of iron, with an extra box arranged to carry 500 lbs. of coke. With this welding outfit, a sand blast outfit is used for cleaning rail ends. This is mounted on a very strong platform, consisting of a heavy 6-in. x 6-in. frame, on which is erected the air compressor and a 15-hp 500-volt electric motor, with a storage reservoir, to supply the sand hopper with sufficient air for cleaning the rails. From practical experience the best results are obtained in operating with a pressure of 18 lbs. to 22 lbs. for cleaning rails. The third part of the welding outfit consists of a grinder mounted on two wheels from a crank axle, with a small platform arranged to carry a 2½-hp motor, to which is connected a special flexible shaft of this company's design. This operates a 2-in. x 2-in. emery wheel for filing the rail and joints. The shaft is said to be something especially suited to these requirements, and is made by the Heil Rail-Joint Welding Company on purpose for this work.

THE PORTABLE FURNACE OF THE HEIL RAILJOINT WELDING CO.

The Hendley Truck

The accompanying engraving shows a view of the Hendley truck for heavy high-speed service, manufactured by the St. Louis Car Company. This truck, which is the standard on the Northwestern elevated, is conspicuous as comprising the minimum of component parts. As will be seen, the frame is of cast steel. The casting is an elaborate one, and one which would not have been thought possible a few years ago. The combination of the spring arrangement is such that the track carries the car bodies smoothly over the tracks.



THE HENDLEY TRUCK

These trucks have been used on the Northwestern elevated since 1898, and their cost for maintenance has been practically nothing.

Collective Electric Exhibit, Pan-American Exposition

W. Jac. Marland, electrical engineer, 132 Nassau Street, New York, is the curator of a collective electrical exhibit section at the Pan-American Exposition. It is an exhibit which it has taken an immense amount of work to get together, and Mr. Marland certainly deserves the thanks of the exposition for the energy he has displayed in getting such an extensive collection. The exhibit is devoted to the products of forty-four electrical manufacturers that did not care to go to the expense of making an individual exhibit and sending a representative. It is arranged in an interesting and attractive manner. Some of the exhibits and exhibitors of interest to street railway men are:

Harold P. Brown, 120 Liberty Street, New York, N. Y. Plastic rail-bond.

H. P. Cameron Electric Manufacturing Company, Syracuse, N. Y. Assembled commutators and separate parts.

Chicago Fuse Wire & Manufacturing Company, Chicago, Ill. Strip fuses, etc.

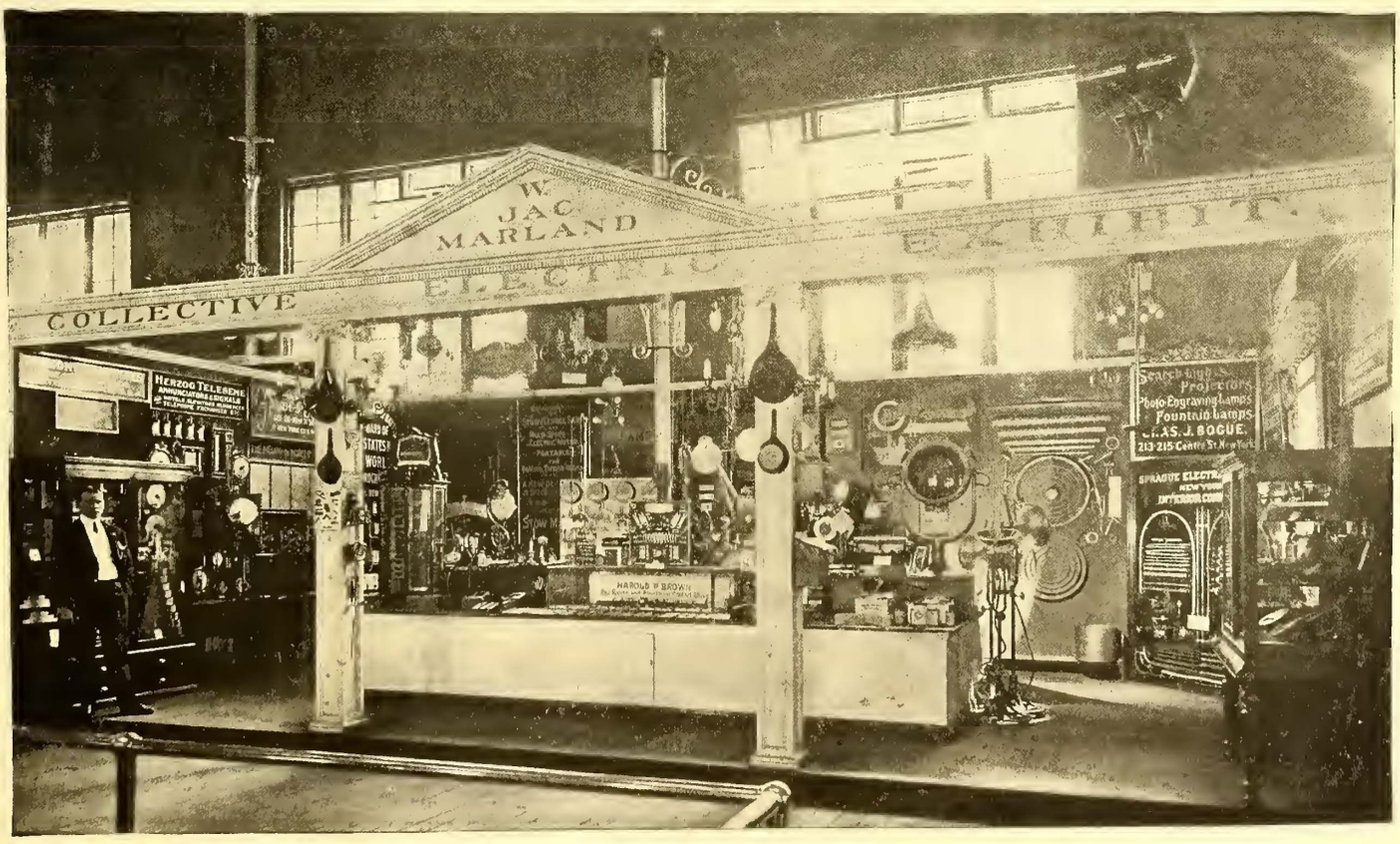
Edison-Johnson Manufacturing Company, 50 Broadway, New York, N. Y. Trolley harps and wheels.

P. H. Gilbert, Scranton, Pa. Up-to-date trolley pole and ice cleaning wheel.

Hart Manufacturing Company, Hartford, Conn. Well-known "Diamond H." switches.

Jaeger's well-known soldering salts and samples of work done with same.

Jenkins Brothers, New York, N. Y. Magnetic lamp holder.



COLLECTIVE ELECTRICAL EXHIBIT, ELECTRICITY BUILDING, PAN-AMERICAN

J. Jones & Son, 64 Cortlandt Street, New York, N. Y. Electrical supplies.

Montauk Fire Detecting Wire Company, 100 Broadway, New York, N. Y. Demonstration of their well-known products.

Pyle National Electric Headlight Company, Chicago, Ill. Locomotive headlight.

Queen & Company, 1010 Chestnut Street, Philadelphia, Pa. Testing sets, switchboard instruments, etc.

Sage Brothers, 120 Liberty Street, New York, N. Y. Ohmmeters.

Railway Equipment & Supply Company, Cincinnati, Ohio. Specially constructed poles.

Speer Carbon Company, St. Marys, Pa. Arc lamp carbons, telephone carbons and the well-known self-lubricating carbons.

Sprague Electric Company. Full line of interior conduits and appliances.

Stow Manufacturing Company, Binghamton, N. Y. Multi-speed electric motor and Stow flexible shaft.

Utica Drop Forge & Tool Company, Utica, N. Y. Electricians' drop forges, tools, etc.

An electrical engineer of Mr. Marland's experience is able to present and arrange an exhibit to best advantage to be attractive to both the engineer and general public. As far as possible one device works upon another.

Street Railway Patents

UNITED STATES PATENTS ISSUED SEPT. 17, 1901

682,603. Trolley; F. A. Crans, Waverly, N. Y. App. filed June 18, 1901. Laterally movable spring actuated grooved rollers embrace the wire at the rear of the trolley wheel to prevent it leaving the wire.

682,625. Car Fender; S. Leivy, East St. Louis, Mo. App. filed April 12, 1901. The fender is mounted on curved guides so as to swing laterally when the car passes around a curve.

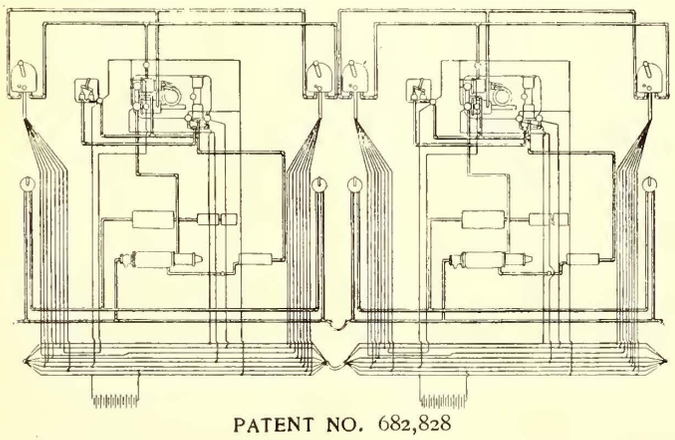
682,639. Trolley; D. J. Rosen, Brooklyn, N. Y. App. filed June 13, 1901. Two wheels mounted in a yoke and counterbalanced by weight to maintain them in a horizontal plane are pivotally connected with the pole.

682,643. Car Fender; R. Salomone, Paterson, N. J. App. filed May 2, 1901. The fender is constructed so that its outer portion will raise when an obstacle falls into it to thereby prevent the body from falling out of the fender.

682,705. Contact Device for Conduit Electric Railways; W. F. Jenkins, Richmond, Va. App. filed Feb. 7, 1901. The block to which the contact screws are pivoted is connected by a pivoted link with the plow.

682,706. Contact Device for Conduit Electric Railways; W. F. Jenkins, Richmond, Va. App. filed Feb. 7, 1901. The contact shoe carrier has a vertical movement on the rigid plow.

682,707. Contact Device for Conduit Electric Railways; W. F. Jenkins, Richmond, Va. App. filed Feb. 7, 1901. The arm projecting from the car into the conduit is pivotally connected with the car and trails rearward.



PATENT NO. 682,828

682,708. Suspensory Device for Trailing Contacts for Conduit Electric Railways; W. F. Jenkins, Richmond, Va. App. filed Feb. 7, 1901. The device consists of two parallel rods projecting from one side of the car, to the ends of which the contact device is secured.

682,709. Insulator; W. F. Jenkins, Richmond, Va. App. filed Feb. 7, 1901. Means for securing the cable holder to the top of an insulator.

682,710. Bond for Electric Railway Conductors; W. F. Jenkins, Richmond, Va. App. filed Feb. 7, 1901. The conductor is tubular, the ends being joined and bonded by two bars located, respectively, inside and outside of the joint and connected together by a bolt.

682,711. Conduit for Electric Railways; W. F. Jenkins, Richmonds, Va. App. filed Feb. 7, 1901. Details.

682,716. Car Truck; P. M. Kling, Elizabeth, N. J. App. filed Feb. 13, 1901. The sides of a frame have sockets containing spring-supported plungers, and stirrups pivoted to the plungers support a beam carrying springs upon which the bolster rests.

682,731. Railway Snow Plow; K. C. Munson, Winthrop, Mass. App. filed Nov. 5, 1900. A lookout house is mounted on the plow immediately above the mouth of the elevator, the latter delivering to two crosswise carriers, which deposit the snow at the roadside.

682,771. Fender for Vehicles; W. F. Weiss, Camden, N. J. App. filed Dec. 10, 1900. A vehicle fender having a flexible support for its front end and a counterweighted translative pivotal support for its rear.

682,828. Electropneumatic Controlling System; E. R. Hill, Wilkinsburg, Pa. App. filed Jan. 13, 1900. The controllers on the several cars of a train are caused to move, step by step, automatically by electropneumatic means set in motion by the closure of a hand switch.

PERSONAL MENTION

MR. ALFRED BAKER, general manager of the London County Council Tramways, and Mr. John H. Rider, electrical engineer of the London Council Tramways, have been spending a short time in this country, and returned to London Sept. 18.

MR. H. P. BRADFORD, formerly general manager of the Compania Limitada de Ferrocarriles del Distrito Federal de Mexico, has accepted a responsible position with the prominent Anglo-American syndicate headed by Mr. H. A. Butters, to act as an expert and adviser in the various tramway properties controlled by them. These properties are located in Mexico, South Africa, Switzerland, France, and, in fact, are scattered widely throughout Europe, with several other continents represented. Mr. Bradford is well known to American street railway managers, having for a long time been general manager of the Cincinnati Inclined Plane Railway, and has recently been connected with the Exploration Company, of London.

MR. BENJAMIN FRICK, formerly secretary of the New York State Street Railway Association and at one time secretary and treasurer of the Atlantic Avenue Railway Company, of Brooklyn, died recently in Sullivan County, N. Y. Mr. Frick had been ill for some time before his death.

MR. WILLARD A. COCKLEY, whose appointment to a position on the selling staff of the Mayer & Englund Company, of Philadelphia, was mentioned in our last issue, has had quite an extended experience in the metal and allied trades. He was formerly connected with the Shelby Steel Tube Company, and later acted as sales-agent for the Runskool Metal Company. His position with the Mayer & Englund Company will be that of New York agent, with headquarters at the company's New York office, 85 Liberty Street. Mr. Cockley will take charge of the sales in New York State and Northern New Jersey for the well-known specialties manufactured by the Mayer & Englund Company.

WILLARD A. COCKLEY

MR. J. H. ADELMANN, formerly superintendent of the Plainfield Street Railway Company, will, on Oct. 1, become superintendent of the Dunnellen and Westfield lines of the Elizabeth, Plainfield & Central Jersey Railroad Company, of Elizabeth, which now controls the Plainfield Street Railway Company.

PROF. YEIJI NAKAJIMA, chief engineer of the city of Tokio, Japan, spent several days in Cincinnati last week examining the operation of the lines of the Cincinnati Traction Company, giving particular attention to the principles of the double-trolley system which is in use in that city. Professor Nakajima states that a company had recently been organized in Tokio to replace the horse cars in use in that city with electricity. The city insisted on the use of the double-trolley system as a preventive against electrolysis, and Professor Nakajima accompanied the engineers of the company to make a study of the system in Cincinnati, one of the few large cities where the double-trolley system is in use. He will also make an inspection of sanitary engineering, waterworks and sewerage systems in use in large cities of this country.

FINANCIAL INTELLIGENCE

THE MARKETS

The Money Market

WALL STREET, Sept. 25, 1901.

In spite of a further accumulation of bank reserves, under the recent Treasury relief measures, the general money situation is less favorable than it was a week ago. The foreign markets have suddenly taken a turn for the worse under the influence of the gloomy reports from South Africa, the outbreak of fresh liquidation at Berlin, and the weakness lately revealed in the copper trade. As a result, Europe has been a heavy seller of American stocks, and the selling has led to a sharp recovery in sterling exchange, definitely removing for the present all prospect of gold imports. We have so far had no reflection of this change in the local money market. The banks reported on Saturday last an increase of over $6,000,000 in surplus reserve, due in part to the Treasury's disbursements on bond redemption and interest, and in part to the decrease in loans and corresponding liabilities accompanying the liquidation of speculative accounts on the Stock Exchange. This addition to resources has been sufficient, in view of the light demand for speculative credits, to keep money rates comparatively easy. Call money has ruled steady between 3½ and 4 per cent, and time money for all periods is abundant at 5 per cent. Nevertheless, the unexpected movement of exchange away from the gold import point arouses some concern as to what the position will be a few weeks hence, when help will probably be needed from the foreign markets. The interior continues to draw heavily upon this center, the shipments averaging between three-quarters of a million and a million daily, and no return of the funds sent out can be expected before Nov. 1. The disposition to hold back cotton in the South is increasing the pressure, because the more the sale of the staple is restricted, the more money has to be borrowed by the dealers and commission merchants who buy from the growers. Under these circumstances, and with little likelihood of much further assistance from the Treasury, the middle of next month threatens fair to find the local banks with surplus reserves again reduced to a minimum, and with the foreign markets as the only real source of supply. It can hardly be doubted that even with the unfavorable conditions which have lately arisen abroad, gold can be imported. But the resumption of the foreign security selling, the rise in German discounts and the generally unsettled state of European financial sentiment, are all reasons why the import movement must be more limited than was expected a short while ago; and, as such, they are incentives to caution in local operations requiring credit, and deterrents to any further relaxation in money rates.

The Stock Market

Apart from the precipitate unloading of copper shares, which has overshadowed the general market, the rise in Manhattan Elevated has been the notable feature of the week's security dealings. The stock has been rising steadily under heavy buying, and yet there is nothing in the way of news or expected developments to account for the advance. The most plausible explanation is the one that has already been mentioned quite frequently in these columns, namely, that the stock is held very largely by people who are convinced that when the electrical equipment is finally installed the company will be able to pay dividends at the very least of 6 per cent; and they are unwilling to sell even at a price which, on the basis of current dividends, is entirely excessive. With the greater part of the issue as if it were permanently lodged, it has been easy for a strong speculative clique to control the rest of the floating supply well enough to advance the price at will. Whether the buying of the last fortnight has been altogether of this character may perhaps be disputed. But as it looks now the operations for a rise have been simply a speculative campaign, the purpose of which, in the estimation of many good judges, is to steady speculative sentiment in other quarters. Metropolitan and Brooklyn have both made some sympathetic response to the advance in Manhattan, but in the case of the Brooklyn specialty the improvement has been restricted by the fear that the company's annual report, which is about to be issued, will not afford much encouragement for "bulling" the stock.

At no time this year have opinions regarding the general market been any more mixed than they are at present. On the one hand, stocks are held in strong hands, trade and railway earnings are good, and there are prospects for other big railway deals which, for the time being, at least, would have a stimulating effect on the speculation. On the other hand, there is the rather critical outlook in the money market which is averse to any speculative revival; there is the uncertainty of the consequences of the corn crop failure, and lastly the ever-present fact that prices by comparison with all former standards are exceedingly high. "What justification would there be for putting stocks higher?" the Wall Street pessimists ask. The optimistic, on the other hand, submit that there are no signs of diminishing prosperity, and they ask: "What basis would there be for a reactionary movement?" The greater part of the financial community are not willing at the moment to commit themselves to either one or the other of these conflicting points of view. They prefer to maintain a neutral attitude, and, in consequence, the market is moving with great irregularity. The break in the copper stocks was a disturbing factor, because it came so unexpectedly. The incident has left a very disagreeable impression, and has led to some discrimination being shown against the industrial shares.

The Curb Market

A steady demand for the St. Louis company securities has been the only feature of the week in the outside traction dealings. The buying is not aggressive, but simply serves to take whatever offerings there are around current figures. The common stock has sold at 27 in New York and at 27½ in St. Louis, the preferred at 82½ and the 4 per cent bonds at 89¾. Reports from St. Louis indicate that holders of the securities are exceedingly reluctant to sell. According to latest advices New Orleans City Railroad shares are being steadily bought, on a growing appreciation of the fact that, under the recent consolidation deal, present prices are a minimum, rather than a maximum, of the exchange value. The common rose from 29 to 30⅝. This is for stock outside the pool. The pooled stock is not offered on the market, and it is expected that it will bring 35. New Orleans preferred is up from 104½ to 106. Reports from the local markets state that Louisville common is strong, offerings being made at 110¼, and that Indianapolis is inactive and lower at 43. New York specialists have advanced to bid price on Syracuse common from 23 to 25.

Philadelphia

The annual statement of Union Traction issued during the week shows somewhat less favorable results than had been expected. Gross earnings were $300,000 larger in 1901 than in 1900, but, in consequence of the higher wages paid, which raised the operating ratio from 42.28 to 43.98 per cent, the net earnings are only $60,000 larger. Moreover, in spite of a liberal deduction from current earnings for improvements, the capital account has grown so that fixed charges have risen $40,000. And this, with a decrease of $90,000 in other income, has left a surplus of only $861,000, against $938,000 last year, and against $1,000,000 commonly anticipated for this season. The actual surplus is equivalent to less than 3 per cent on the capital of the road. The movement of the stock during the week has been comparatively indifferent to this report; it has scarcely varied more than half a point, between 28½ and 29. The market for Consolidated Traction, of Pittsburgh, has reflected a more confident feeling than prevailed a week ago, that the terms of the transfer to the Philadelphia Company will be accepted by enough of the shareholders to insure the success of the deal. The common stock has, accordingly, risen from 23½ to 24⅛. At the same time there is a sentiment against the scheme which, whether it is a minority sentiment or not, is very strong. As we have already pointed out, the basis of this opposition lies in the earnings of the traction company, which are steadily increasing, and which seem to suggest that the time when dividends might be paid on the common stock is not so far off. Under the terms of conversion, as now proposed, holders of the common are making a heavy sacrifice in order to own a dividend instead of a non-dividend-paying security. Philadelphia Traction is firmer at 96. American Railways, on the purchase of 200 shares, rose from 40½ to 41¾. The favorable earnings statement for the year is the apparent reason for this display of strength. In the bond dealings, Electric-People's Traction 4's have been exceptionally strong, selling up to 97½—the highest figure they have touched in some time. Sales of Indianapolis 4's are reported at 83½, an advance of a half point, and of United Traction, of Pittsburgh, 5's at 114.

Chicago

The elevated securities have continued inactive, and prices are little changed as the result of the week's operations.. Odd lots of Metropolitan preferred have sold at 93, and of the common at 40, both of these being decided gains over last week's quotations. On the other hand, Lake Street is down a half point to 12, and South Side is unchanged. The gains in traffic are uniformly

large, and an official of the Northwestern says that if the last half of September equals the first half, the increase in earnings over last year will be the largest yet reported for any month this season. The Metropolitan carried 121,000 passengers the day of President McKinley's funeral, and the other roads carried in the same proportion. According to the best legal talent, the recent enormous addition to the tax valuation of the traction properties will not hold in the courts. The roads, with the exception of the Union Loop and the Lake Street, own their right of way, and these properties, the contention is, are taxable only as railroads, and not as street railways operating in the public thoroughfares. There is certain to be a fight to a finish, according to the way the various attorneys now talk.

Union Traction stocks have been well bought during the week on the belief that the postponement of dividend resumption on the preferred will not be for longer than the next meeting of the company. This view is founded on the constant increase in the road's earnings, which amount to considerably more than enough to meet the full preferred stock requirements.

Stock Quotations

The following table shows present bid quotations for the leading traction stocks, and the active bonds, as compared with a week ago; also the high and low since Jan. 1, 1900:

	Jan. 1, 1900 To Date		1901 Closing Bid	
	High	Low	Sept. 17	Sept. 24
American Railways Co.	48¼	27	40	40¾
Boston Elevated	192	b95	172	170
Brooklyn R. T.	88⅞	47⅛	65¼	66⅝
Chicago City	†285	200	a205	a206
Chicago Union Tr. (common)	..	..	16¾	17¾
Chicago Union Tr. (preferred)	..	..	58	58
Columbus (common)	48	20	45	45
Columbus (preferred)	103	80	104	104
Consolidated Traction of N. J.	69½	57	66	66
Consolidated Traction of N. J. 5s	110	..	109	109
Consolidated Trac. of Pittsburgh (common).	30¼	20¼	23¾	23¾
Indianapolis Street Railway	48¾	15	44½	43
Lake Street Elevated	16¼	6½	12½	12
Manhattan Ry.	131¾	84	119⅛	124⅞
Massachusetts Elec. Cos. (common)	43¼	15	35	34
Massachusetts Elec. Cos. (preferred)	96	70	92½	91¾
Metropolitan Elevated, Chicago (common)..	39	24½	37	39½
Metropolitan Elevated, Chicago	98½	70	92	92½
Metropolitan Street	182	143¾	162	166
Nassau Electric 4s	97½	..	97½	97½
New Orleans (common)	33½	18¼	29	30¼
New Orleans (preferred)	108	90	104½	105½
North American	*106	*74	97	96
North Jersey	36	21	23½	23½
Northwestern Elevated, Chicago (common).	52	..	40	38½
Northwestern Elevated, Chicago (preferred).	97½	..	85	85
Rochester	31½	12	30	30¾
St. Louis Transit Co. (common)	35	16½	26½	26
South Side Elevated (Chicago)	119	93	109½	109
Syracuse (common)	b23	10½	23	25
Syracuse (preferred)	b65	25	63	63
Third Ave.	135⅛	45¼	120	120
Twin City, Minneapolis (common)	105¼	58½	102¼	101
United Railways, St. Louis (preferred)	82½	..	82	82¼
United Railways, St. Louis, 4s	91½	..	89⅜	89½
Union Traction (Philadelphia)	40⅛	24¼	28¾	28⅜
United Traction (Providence)	110	107	109	109

a Asked. b Bid. * Quotation of new stock † High quotation previous to the issue of new stock.

Iron and Steel

Authorities in the iron trade are exceedingly cautious about venturing an opinion on the question whether domestic consumption is really increasing. We have admittedly lost the foreign markets for the unfinished and lower grades of manufactured products, since prices abroad are well below the home level. It is, therefore, necessary that the domestic demand be well sustained if a reaction is to be avoided. There will be no means, however, of accurately gaging this demand for some time, until the unnatural situation, caused by the recent strike, is passed by. While the conditions regarding pig iron are thus uncertain, there is no doubt about the heavy consumption of the finished material or that the outlook in this quarter is distinctly encouraging.

Bessemer pig is quoted at $15.75, steel billets at $25 and steel rails at $28.

Metals

Copper is unsteady at 16½ cents, tin lower at 25⅛ cents, lead unchanged at 4⅜ cents, and spelter firm at 4.10 cents.

BIRMINGHAM, ALA.—All of the outstanding first consolidated mortgage 5 per cent gold bonds of the Birmingham Railway & Electric Company dated Dec. 10, 1900, have been called for payment at 105 and interest at the Old Colony Trust Company, of Boston, on Jan. 1, 1902. The new mortgage of the company filed several weeks ago makes possible the calling of any of the bonds of 1900 not voluntarily changed.

WASHINGTON, D. C.—A committee, consisting of George W. Young (chairman), John Crosby Brown, James Timpson, William H. Hollister and Gardiner M. Lane, has prepared a plan of reorganization for the Washington Traction & Electric Company, which provides for the foreclosure of the first collateral trust mortgage and the transfer of the property, if acquired by the committee, either to a new company or to the Washington & Great Falls Electric Railway Company, whose name, under the act of Congress passed on June 5, 1900, shall be changed to the Washington Street Railways Company, or otherwise appropriately modified. The successor company shall authorize the issue of $17,500,000 fifty-year mortgage 4 per cent gold bonds and $6,500,000 common stock. Assenting security holders will receive for each $1,000 bond $550 new 4's, 550 new preferred stock, 200 new common stock; for each $100 share of stock, on payment of $9, $9 new preferred stock, 30 new common stock. Both classes of stock are to be held in voting trust for five years, and for such further period, if any, as shall elapse before the preferred stock shall have received 5 per cent cash dividends for three consecutive years, although the voting trustees may, in their discretion, deliver the stock, or any part thereof, at an earlier time. An agreement has been made by which $672,000 in bonds of the new company are to be purchased by a syndicate, depositing bondholders to be allowed to participate in such purchase at the same rate, viz., upon payment of $50 for each bond deposited the depositing bondholder will receive $50 in bonds and $25 in common stock of the new company.

MARION, IND.—The Union Traction Company, of Anderson, has purchased the entire property of the Marion Transit Railway Company. The consideration has not been made public. The purchase of the lines of the Marion Transit Railway Company by the Union Traction Company, of Anderson, closes a struggle between the Marion Transit Company and the Marion City Railway Company, the name under which the local line of the Union Traction Company is known, which, while it lasted, proved extensively profitable to the residents. The Marion Transit Railway Company was organized about two years ago for the purpose of building an electric railway from Marion to Gas City and Hartford City, and west from Marion to Converse. It obtained a franchise for one of the principal streets of Marion, and track was laid from the business district to the Soldiers' Home. No work was done east of that point, but arrangements were recently made to build to Converse. With the building of the new line at Marion began one of the most interesting fights that has taken place between interurban roads in this State. As soon as the new company appeared the Marion City Railway Company cut the fare on the Soldiers' Home line, the most important in the city, and the only one with which the new company could compete, to 1 cent a trip with transfers on in-bound cars. It has maintained this rate for over a year in the face of a heavy loss, while its rival charged 5 cents.

NEW ORLEANS, LA.—The directors of the New Orleans City Railroad Company, formerly the New Orleans Traction Company, which controls about two-thirds of the total mileage of the New Orleans street railways, has agreed to accept the offer of H. H. Pearson, Jr., acting for Brown & Company, of Philadelphia and New York, and representing Philadelphia capitalists, for the lease or purchase of these lines, and recommends the stockholders to accept the offer. Pearson has made similar offers to the New Orleans, Carrollton and St. Charles street railway companies, with the purpose of consolidating all the lines in the city, with a total mileage of 186 miles, in one company under a new management. The offer to the New Orleans company includes the assumption of the floating indebtedness of the company, and the payment of a 6 per cent interest on the preferred stock. It reserves the right to buy the preferred stock at 112.50 at any time it should see fit, and the common stock at 35, the Philadelphia syndicate to lease the property until the purchase is made.

DETROIT, MICH.—The gross receipts of the Detroit United Railways for eighteen days in September were $159,661.16, an increase of $19,424.93 over the same period, and daily average increase of $1,079.16.

BENTON HARBOR, MICH.—The Michigan & West Shore Traction Company, recently incorporated, has filed a mortgage for $1,000,000 in favor of the North American Trust Company, of New York. The money is to be used to provide for the construction of the road. The road is to run from South Haven, through Covert, loop around Paw Paw Lake through Watervliet, Coloma and Riverside, with southern terminals at Benton Harbor. Extension to St. Joseph is contemplated later on. S. B. Downer is the principal promoter of the line.

MINNEAPOLIS, MINN.—The Twin City Rapid Transit Company reports earnings as follows:

August	1901	1900
Gross receipts	$283,589	$254,736
Operating expenses	122,035	106,238
Earnings from operation	$161,554	$148,498
Fixed charges*	75,350	68,284
Net earnings	$86,204	$80,214
Eight months		
Gross receipts	$2,031,771	$1,830,377
Operating expenses	945,715	874,446
Earnings from operation	$1,086,056	$955,931
Fixed charges*	585,398	558,750
Net earnings	$500,658	$397,181

* Includes taxes and proportion of preferred dividend.

NEW YORK, N. Y.—The quarterly dividend of 1¾ per cent on the stock of the Metropolitan Street Railway Company is payable Oct. 15.

HEMPSTEAD, N. Y.—M. J. Mandelbaum, of M. J. Mandelbaum & Company and the Pomeroy-Mandelbaum syndicate, has just completed arrangements for the purchase of the Mineola, Hempstead & Freeport Traction Company's electric railway now under construction. The Cleveland Construction Company, of which Will Christy, a prominent member of the syndicate, is president, is building the road, which was originally promoted by Brooklyn people. Ten miles of road are under construction, and the road is to be extended to Freeport, 15 miles. The Cleveland Construction Company has just closed contracts for a storage-battery station and two 200-kw rotary transformers. Power to operate the line will be furnished by the Roslyn Light & Power Company. E. Gonzenbach, formerly with the Albany & Hudson Railway, of Albany, N. Y., is in charge of the construction work, having recently become identified with the Cleveland Construction Company.

CLEVELAND, OHIO.—The receipts of the Cleveland, Elyria & Western Railway for the first week in September were $5,753.87, and for the second week $7,912.79, the increase being attributable to the G. A. R. week in Cleveland. The average for fourteen days was $976.19 per day, compared with $628.20 per day for the same period in September, 1900.

CLEVELAND, OHIO.—M. J. Mandelbaum & Company, of Cleveland, have just issued stock, to the amount of $2,000,000, for the Aurora, Elgin & Southern Railway. The bonds of the road, to the amount of $1,700,000, were recently issued. The road is 72 miles in length, and is made up of several short lines, which were bought up and consolidated last year. It extends from Carpentersville, through Elgin, Batavia, Aurora and other towns, to Yorkville, and will connect with two other lines extending into Chicago, and now under construction by the same parties. The third-rail system is to be employed.

CLEVELAND, OHIO.—Stockholders of the Lorain & Cleveland, Sandusky & Interurban, Sandusky, Norwalk & Southern, and Toledo, Fremont & Norwalk railways met in Cleveland, Sept. 20, and ratified the actions of the directors of the various companies in an agreement to consolidate the properties into the Lake Shore Electric Railway. The prospectus of the new company states that the company will have a capital stock of $6,000,000, divided into $1,500,000 preferred and $4,500,000 common. Only $4,000,000 of bonds are to be issued on the present mileage, the balance of $2,000,000 being intended to cover extensions and requirements in the way of feeders or possible competition. The total mileage of the road is 160 miles, so that the bonds amount only to $25,000 per mile, including the city lines in Sandusky, Norwalk, Bellevue and Fremont. The total cost of the properties, with their stock and bond issues, and the sums being expended for extensions and betterments, follows:

	Cost	Bonds	Stock	Extensions
Toledo, Fremont & Norwalk	$1,835,000	$1,500,000	$1,500,000	$300,000
Sandusky, Norwalk & Southern	500,000	400,000	400,000	.....
Sandusky & Interurban	450,000	400,000	400,000	660,000
Lorain & Cleveland	825,000	750,000	1,000,000	.....
	$3,610,000	$3,050,000	$3,300,000	$960,000

Total cost when new construction work is completed, $4,570,000.

The earnings of the combined roads during the past three months, on a mileage of 125 miles, none of the roads being connected, and there being no through traffic, was as follows:

June	$33,201.28
July	39,446.81
August	44,909.63
	$117,557.73

or an average of $39,185.90, or on a basis of $470,230.80 per year. On the basis of 125 miles operated, this would show an earning of $3,761 per mile, or slightly less than the average earnings per mile of the interurban roads of the country, which are $3,800 per mile. During the past two years the Lorain & Cleveland has averaged over $4,500 per mile, and it is claimed that with through traffic, both passenger and freight, the latter class having been comparatively untouched, the earnings of the road will be at least 50 per cent greater than the combined earnings of the constituent companies. It is claimed the Lake Shore Electric Railway will serve an immediate population of over 1,000,000; Cleveland, the eastern terminus, has 400,000, and Toledo, the western, 175,000. The larger towns on the route are as follows: Lorain, 18,000; Vermillion, 2500; Sandusky, 25,000; Norwalk, 10,000; Monroeville, 2600; Belevue, 5000; Fremont, 12,000; Clyde, 2000; besides numerous villages ranging from 250 to 2000. From Cleveland to Sandusky is entirely private right of way, and much of the balance is also built on private property. Franchises in all the towns run for at least twenty-four years. Each of the four companies has large and well-equipped power houses. The rolling equipment of the new road consists of thirty-nine interurban cars of the largest size in first-class condition, five cars of the same size in second-class condition, twenty city cars for Sandusky lines, five express and baggage cars, eighteen flat cars and one steam locomotive for construction work. A number of new cars of the largest size, equipped with four 75-hp motors, have been ordered for through traffic, and several of these will be parlor cars. It is the intention later to operate sleeping cars from Cleveland to Detroit over the Detroit & Toledo Shore line, which is owned by the same syndicate. The total mileage of the Everett-Moore syndicate, in operation or practically so, is given as 1350 miles, divided as follows: Cleveland city and interurban lines, 430 miles; Lake Shore Electric Railway, 160 miles; Toledo city lines and interurbans, 150 miles; Detroit & Toledo Shore line, 60 miles; Detroit city lines and Michigan interurbans, 550 miles.

SEATTLE, WASH.—The Seattle City Railway and Leschi Park have been sold to James S. Goldsmith, representing the Seattle Electric Company, for $500,000. The railway properties acquired are the Jackson Street Electric line and Yesler Way Cable. Leschi Park has an area of 4.43 acres, and is highly improved. The sale of the property will effect no immediate change in the operation of the roads.

Tables of Recent Traction Earnings

NAME	Latest Gross Earnings			Latest Net Earnings	
	Week or Month	1901	1900	1901	1900
American Rys. Co.	Aug.	$91,176	$81,813	$.....	$.....
Binghamton Ry. Co.	Aug.	21,490	19,539	10,604	9,684
Brooklyn R. T. Co.	July	1,203,761	1,145,189	e445,266	474,541
Chicago & Mil. El. Ry. Co.	July	23,459	18,378	15,770	13,232
Cincinnati, Newport & Covington Ry. Co.	June	72.201	73,965	42,452	42,700
City Elec. (Rome, Ga.)	July	3,873	.....	e 260	.....
Cleveland & Eastern	Aug.	10,671	5,363	6,133	3,781
Cleveland El. Ry. Co.	Aug.	209,462	182,940	93,315	89,582
Cleve., Elyria & Western	Aug.	27,307	.....	14,936	.....
Cleveland, Painesville & Eastern	July	19,143	16,605	11,393	11,057
Consolid. Tr. (Pittsburgh)	Aug.	289,103	268,919	163,345	159,788
Denver City Tramway	Aug	142,390	124,718	64,216	61,949
Detroit United Ry.	Aug.	288,575	261,810	138,160	125,363
Duluth Superior Tr.	July	45,983	.....	23,866	.....
Herkimer, Mohawk, Ilion & Frankfort Ry. Co.	May	4,508	4,146	1,935	908
International Tr.	July	528,936	250,999	287,601	127,152
London St. Ry.	July	15,303	11,159	6,531	3,818
Montreal Street Ry.	Aug.	179,587	173,584	.....	.....
Northern Ohio Traction	Aug.	67,693	57,954	33,669	24,064
Olean St. Ry. Co.	July	5,954	5,115	3,748	3,199
Richmond Traction Co.	Aug.	21,985	18,133	6,757	7,837
Rochester Ry. Co.	Aug.	89,379	84,272	41,234	35,514
St. Louis Transit Co.	Aug.	509,048	505,728	.....	.....
Scranton Ry. Co.	Aug.	63,763	57,647	30,019	27,713
Southern Ohio Trac. Co.	Aug.	39,915	30,201	21,465	14,996
Syracuse R. T. Ry. Co.	June	56,952	48,211	26,010	21,305
Twin City Rapid Transit.	Aug.	283,589	254,737	161,554	148,498
United Tr. Co. (Albany).	July	134,370	126,121	54,732	47,466
United Tr. Co. (Pittsburgh)	Mar.	157,792	148,009	70,741	65,511

NAME	Gross from July 1 to Latest Date			Net from July 1 to Latest Date	
	Period Ending	1901	1900	1901	1900
American Rys. Co.	Aug. 31	$180,834	$166,412	$	$.....
Binghamton St. Ry	Aug. 31	43,970	39,414	22,932	21,035
Brooklyn R. T. Co.	June 30	12101 198	11751595	e4130,563	e3,758,369
Chicago & Milwaukee El. Ry. Co.	a July 31	88,920	71,565	46,829	40,828
Cincinnati, Newport & Covington Ry. Co	a June 30	384,638	369,938	223,546	220,145
City El. (Rome, Ga.)	a July 31	24,138	.....	e 2,970	.....
Cleveland El. Ry. Co	a Aug. 31	1,474,082	1,330,593	658,542	601,153
Cleveland, Elyria & Western Ry. Co	a Aug. 31	158,563	112,186	70,122	40,349
Cleveland, Painesville & Eastern	a July 31	84,592	74,854	40,614	35,715
Consolid. Tr. Co. (Pittsburg)	d Aug. 31	1,448,854	1,379,544	822,662	785,039
Denver City Tramway	a Aug. 31	980,891	847,019	442,484	366,798
Detroit United Ry.	a Aug. 31	1,843 510	1,643,786	855,626	729,227
Herkimer, Mohawk, Ilion & Frankfort Ry. Co	May 31	48,895	47,026	20,247	21,063
International Tr.	May 31	2,698,332	2,331,632	1,303,216	1,085,748
London St. Ry.	a July 31	75,416	60,629	26,698	13,475
Milwaukee El. Ry. & Lt. Co	d June 30	918,104	830,674	426,071	389,333
Montreal Street Ry.	*Aug. 31	1,706,384	1,601,032	.....	.....
Olean St. Ry. Co.	June 30	52,018	48,700	25,790	22,997
Richmond Trac. Co.	*Aug. 31	197,579	182,330	73,705	89,902
Rochester Ry	Aug. 31	180,457	167,452	84,025	70,977
St. Louis Transit Co	a Aug. 31	3,801,409	2,657,716	.....	.....
Scranton Ry. Co.	Aug. 31	127,958	116,843	62,318	55,507
Seattle Elec. Co.	d May 31	514,386	412,705	193,192	97,253
Southern Ohio Tr.	a Aug. 31	218,736	188,056	96,257	89,168
Syracuse R. T. Ry. Co	June 30	621,299	552,403	280,469	233,268
Twin City R. T. Co.	a Aug. 31	2,031,771	1,830,378	1,086,056	955,931
United Tr. Co. (Albany)	June 30	1,340,356	.....	186,131	.....

* Eleven months. † Caused by strike of employees. a From Jan. 1.
b Three months. d Five months. e Excluding taxes.

NEWS OF THE WEEK

CONSTRUCTION NOTES

MONTGOMERY, ALA.—Capt. Berry Holt, of Montgomery, has been granted a franchise for the construction of an electric railway here. The company in which Capt. Holt is interested will build 18 miles of line and open up a park of 300 acres. Construction work is to be begun at once.

BIRMINGHAM, ALA.—The Birmingham Railway, Light & Power Company is making great progress with its new line from Ensley to Wylam. The wires are being strung and the connections will be made in a few days. The equipment recently purchased for the company, consisting of $150,000 worth of rolling stock, will arrive soon, and the line to Bessemer, 6 miles from Powderly, will be equipped with electricity.

OAKLAND, CAL.—A short electric railway will be constructed by the Selby Smelting Works Company to connect its smelter, near Oakland, Cal., with a new town site fronting on the bay. The company proposes to construct a model village for its employees on the recently acquired tract of land.

OAKLAND, CAL.—The Oakland Transit Company is preparing to make extensive improvements in the Elmhurst power plant of the recently acquired Oakland, San Leandro & Haywards Electric Railway Company, with the object of operating all the cars embraced in the eastern division of the company's lines from this plant.

HARTFORD, CONN.—It is stated that the Hartford & Worcester Street Railway Company will begin the grading of its line this fall, so that the construction of the line can be begun in the early spring. All the locations in Connecticut from Hartford to the Massachusetts line have been obtained. Locations have also been granted in the towns of Holland and Wales in Massachusetts. Hearings have been assigned by all the other towns on the route through Massachusetts to Worcester, including Sturbridge, Brookfield, Charlton, Oxford and Auburn, to the Worcester line.

WILMINGTON, DEL.—The Newport extension of the Wilmington City Railway Company has just beeen placed in operation.

JACKSON, GA.—Interests identified with the syndicate that last year purchased water rights on the Ocmulgee River have made application for a franchise to construct an electric railway in Jackson. The plan of the promoters is to construct an electric railway from Jackson to Indian Spring and Flovilla, a distance of 6 miles, and to erect a large power plant to supply current for operating the proposed road and for commercial purposes.

SYCAMORE, ILL.—The promoters of the Sycamore-DeKalb Electric Railway Company have secured extensions of the company's franchises, some of which had already expired, they securing new franchises in these cases. The franchise in DeKalb has been extended to Jan. 10, 1902, and the franchise in Sycamore has been extended to Feb. 11, 1902. The entire right of way between the two cities has been secured. The company is making strenuous efforts to so perfect its plans that construction work may be begun almost immediately. E. B. Magill, of Chicago, is the principal promoter of the enterprise.

MOLINE, ILL.—The Moline, East Moline & Watertown Suburban Railway has been granted a twenty-year franchise to operate an electric railway over what is known as the Second Avenue route, in Moline. The franchise ordinance provides for a fare of 5 cents to the limits, 5 cents in East Moline and 10 cents from any point in Moline to Main Street, near the artesian well in East Moline, to extend over a period of two years, after which a 5-cent fare will prevail between the city and suburb. Col. U. P. Hord is interested in the new company, and is now busily engaged in securing consents of property owners beyond the city limits.

ALTON, ILL.—The promotors of the electric railway between East Alton and Granite City, which will connect with an extension of the lines of the Alton Railway, Gas & Electric Company, are securing the right of way for the proposed electric line through the American Bottoms. The right of way is being made over to E. G. Speicer and Fred. E. Allen. The right of way will be along the east side of the Wabash tracks from Granite City to the point where the Wabash diverges from the Big Four, and at that point a crossing will be made to follow along the Big Four. The land owners give the right of way for the construction of a railway to be operated by electricity or other improved motive power than steam.

SALEM, ILL.—The Wabash & Mississippi Construction Company, which was organized and incorporated about three years ago by Dr. W. C. Irwin, Charles A. Neff and D. D. Hayme, has been reorganized, and Dr. D. D. Mercer, the former street railway magnate of Omaha, Neb., has acquired an interest in the company. It was the intention of the company to construct an electric railway from Lawrenceville, Ill., to East St. Louis, passing through the counties of Lawrence, Richland, Clay, Marion, Clinton and St. Clair. The company had secured the right of way, but shortly after doing so the scheme was abandoned for a time. With the additional capital now secured the company will begin at once to again secure the right of way, and immediately after so doing will begin the construction of the proposed line. The construction work will begin at Lawrenceville, as originally intended, and will extend only to O'Fallon, Ill., as they have perfected arrangements to get into St. Louis from that point over the East St. Louis-Belleville line. Dr. W. C. Irwin and James A. Hogue, two local capitalists, are back of the movement, and there seems to be no doubt that the line will be constructed before the St. Louis World's Fair in 1903. The principal offices will be located at Salem, and Dr. Irwin will be general manager.

INDIANAPOLIS, IND.—The Fort Wayne & Lima Traction Company was incorporated Sept. 17, with a capital stock of $50,000. The company is composed of the following citizens of Lima, Ohio: D. J. Cable, J. B. Kerr, W. F. Numan, W. L. Parmenter and Henry W. Neff, and proposes to construct an electric railway from Lima, Ohio, to Fort Wayne. The line will touch New Haven and Monroeville, in Huron County.

RICHMOND, IND.—The Eastern Indiana Traction Company, which proposes to construct an electric railway to connect Richmond, Portland and Winchester, is making rapid progress with its preliminary arrangements. Franchises have been granted at Portland, Winchester, Lynn and Fountain City, and will soon be asked at other points. The right of way has been secured from the Richmond north corporation line to Portland, with little exception. The engineers are at work on preliminary surveys. Peter Schwab is president of the company.

INDIANAPOLIS, IND.—Interests identified with the Cincinnati, Lawrenceburg & Aurora Railway have just incorporated the Cincinnati & Indianapolis Traction Company. The Cincinnati & Indianapolis Traction Company's proposed lines will practically be an extension of the lines of the Cincinnati, Lawrenceburg & Aurora Railway, and they will extend through Marion, Shelby, Decatur, Franklin and Dearborn counties, touching Shelbyville and Greensburg. The road will practically parallel the Big Four Railway, and will be about 90 miles long. J. C. Hooven, C. E. Hooven, Stanley Shaffer, C. O. Richter and C. E. Heiser, of Hamilton, are interested in the company.

CLINTON, IA.—The Iowa & Illinois Railway Company has been incorporated, with a capital stock of $125,000, to construct a railway to be operated by electricity, or other power than steam, from Clinton to Davenport and other cities. The incorporators and officers of the company are: F. J. Spencer, Wauseon, Ohio, president; W. E. Hill, of Oak Harbor, Ohio, vice-president; Fred. J. Bellmeyer, of Wauseon, Ohio, secretary; C. C. Handy, of Wauseon, treasurer; Harry W. Dean, of Clinton, Ia., assistant treasurer and general superintendent; J. A. Foster, of Attica, Ind., superintendent of construction; F. S. Ham, of Wauseon, Ohio, counsel.

GREENFIELD, MASS.—Material to be used in constructing the Greenfield & Deerfield Street Railway is arriving, and the plan is to begin the construction of the line at once. An officer of the company predicts that the line will be in operation to Deerfield by Dec. 1, but the present conditions do not warrant such a statement. It is possible that with continued fine weather this could be done. The line will eventually be extended to Northampton.

LOWELL, MASS.—The Council has granted the application of the Boston & Northern Street Railway Company for permission to build a belt line here. The meeting at which action on the application was taken was largely attended, and the company was commended for its excellent service.

UXBRIDGE, MASS.—The Milford & Uxbridge Street Railway has begun excavating for the track between Mendon Pond and Uxbridge, and the work on the line of the road toward Uxbridge is now to be pushed. C. W. Blakeslee & Sons are building the line.

PORT HURON, MICH.—The City Electric Railway Company has completed its Keewahdin Beach extension.

WORCESTER, MASS.—The Consolidated Street Railway Company has filed with the City Clerk applications for franchise for the construction of many new lines. If the franchises are granted the company will add many miles to its present trackage.

GRAND RAPIDS, MICH.—The Grand Rapids, Grand Haven & Muskegon Railway Company has its line nearly graded, and expects to have it in operation from Grand Rapids to Muskegon about Nov. 1. Between 600 and 700 men are now employed on the work, and it is being pushed as rapidly as possible.

GRAND RAPIDS, MICH.—The Grand Rapids, Kalamazoo & South Haven Traction Company has decided to do its own work, instead of letting contracts for its construction, and will begin immediately. It will dam the Kalamazoo River just above Allegan.

GRAND RAPIDS, MICH.—The Grand Rapids Railway Company has begun work on an extension of its line on West Leonard Street to the city limits. This line is being constructed to give the Grand Rapids, Grand Haven & Muskegon Railway Company an entrance into the city.

KALAMAZOO, MICH.—Engineers are now at work making surveys for the lines of the Southern Michigan Traction Company, which are to extend from Kalamazoo to Grand Rapids, with a branch to Otsego. It is proposed to build a road of the most modern character, and provide for both passenger and freight service. The passenger cars will be larger than those ordinarily in use on interurban roads, and will be equipped with four 75-hp motors. Motor cars will also be provided for freight, and will act as electric locomotives for hauling box freight cars. The road will be constructed on private right of way outside of towns and for a considerable distance in the corporate limits of some of the towns. The grades and alignment will be such as to admit of high-speed service. F. H. Ginn and George T. Bishop, of Cleveland, are at the head of the project, and E. P. Roberts & Company, of Cleveland, are chief engineers.

JACKSON, MICH.—The Jackson & Ann Arbor Railway Company and the Detroit & Ann Arbor Railway Company have been incorporated under the laws of the State of Michigan, each company having a capital stock of $100,000. The companies propose to build an electric railway from Jackson to Detroit. The incorporators of the companies are: J. B. Foote, C. H. Frisbee and G. D. Smith, of Jackson, and W. Wilson, of Grass Lake.