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Street railway news, and all information regarding changes of officers, new equipments, extensions, financial changes and new enterprises will be greatly appreciated for use in these columns.

All matter intended for publication must be received at our office not later than Tuesday morning of each week, in order to secure insertion in the current issue.

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The New York Hearing

The hearing before the Railroad Commissioners on the surface traffic conditions in Manhattan Borough on Jan. 22 is reported in detail elsewhere in this issue, and was, on the whole, very satisfactory. One of the most interesting features of the meeting was the fact that the engineering committee of the Merchants' Association withdrew at the hearing several of the seventeen recommendations originally made by the association. Among them were the following: The proposal to have all the cars equipped with vestibules, that of turning the Lexington Avenue cars off Broadway at Fourteenth Street and running them up Fourth Avenue to Twenty-Third Street, the proposed change of the Broadway and Sixth Avenue routes at Thirty-Fourth Street, and the suggested extension of the Broadway route through Fifty-Ninth Street. The engineering committee of the Merchants' Association also withdrew, in a qualified way, the proposal to issue transfers at all junction points, and said that while the members were not in possession of sufficient accurate information to warrant an expression of opinion, it did not appear advantageous to throw additional traffic on overcrowded lines for the mere purpose of extending the transfer privilege. This is a point which we have constantly advocated, but we further believe that a reduction of the present number of points at which transfers are given at present can also advantageously be made. On the

regulation of vehicle traffic the engineers of the association took an even more advanced position than the transportation expert of the Board, and advocated the promotion of restrictive regulations for all of Broadway south of Fifty-Ninth Street. Why this suggestion should be restricted to Broadway does not appear clear, because the congestion from vehicles on some of the side streets, like West Broadway, West Street and Hudson Street, and on most of the crosstown streets below Fourteenth Street, on which cars are run, are, if anything, worse than on Broadway itself.

The contention of the railway company that a sufficient car service is being run above Twenty-Third Street on the Third Avenue, Lexington Avenue, Seventh Avenue, Eighth Avenue and Ninth Avenue lines to more than accommodate the traffic at all hours of the day, except the rush hours, we consider, was amply demonstrated at the hearing by the tables offered in evidence there, and which are reproduced graphically in this issue. It will be seen from this record that on practically all of these lines the seating capacity far exceeds the number of passengers in the hours under discussion, and in some cases is more than double the number of passengers carried. The chief trouble in the past, in our opinion, has been caused partly by the fact that the downtown divisions of all of these lines have been blocked by vehicle traffic, and partly because passengers have been encouraged to crowd onto the Madison Avenue and Broadway lines through a too liberal system of transfers. The Merchants' Association laid great stress on the importance of spur terminals on the lines west of Broadway to the intersections with that thoroughfare of a number of streets like Vesey, Broome and Canal. Until, however, a satisfactory service, so far as speed is concerned, is given on these side streets, we do not believe that passengers can be attracted to any considerable extent to them from the Broadway line.

The report of the transportation expert of the Board is also published elsewhere in this issue, and is particularly interesting because of the suggestion contained in it to construct a subway under Thirty-Fourth Street for the use of the Broadway cars, and thus eliminate the congested triangular crossing at that point. No opinion was expressed by the representatives of the railway company present at the hearing as to this feature of the report or by the engineering committee of the Merchants' Association. Mr. King, of the Merchants' Association, has, however, endorsed the plan provided sufficient head room can be secured at that point above the proposed Pennsylvania tunnel to accommodate the subway and also the proposed tunnel of the Interborough Rapid Transit Company.

Taken as whole, we do not see that the modified report of the engineering committee of the Merchants' Association differs materially from that of the transportation expert of the Board, except in the question of having two conductors on each car and in certain details regarding the character of service at present given on some of the lines east and west of Broadway. The former question, which we regard as a very important one in railway work, is discussed below; the latter

is a question of fact and should easily be capable of determination. There is one point in connection with the matter, however, which we commend to the consideration of the Railroad Commissioners as well as to the transportation committee of the Merchants' Association. The street railway traffic in New York is certain to grow rapidly in the future, and the annual increase will probably be in very nearly the same ratio as it has been during the past fifteen years. The consequence is that any steps taken to give increased facilities to the railway companies in New York should not be made from the viewpoint only of the present requirements, but should be so adequate that as these years come the company will be in a position properly to care for the increasing numbers of people who will demand transportation.

Two Conductors on Cars

In a previous issue it was mentioned that there was a well defined movement in New York to require the surface railway companies to place two conductors on every car during the rush hours and on all long cars at all hours. Without attempting to trace the origin of this movement it is sufficient to say that it was voiced by the Mayor in his recent annual message to the Board of Aldermen, and was again brought prominently to the front by the Merchants' Association of New York in the recent hearings before the State Board of Railroad Commissioners upon several matters affecting the operation of the surface lines. This is a question which in its very nature cannot be considered as local to New York, and it is no more than proper that it should be considered upon the broad ground of being applicable to all cities where the rush-hour passenger traffic has outstripped the transportation facilities and the conditions of overcrowding are thereby accentuated in the public mind.

The reasons given in support of the demand for two conductors are varied, but they are all based upon the one idea that with a crowded car (especially the larger cars) one conductor cannot do justice to the company and to the public at the same time. The proposal seems to be that there shall really be but one conductor on the car, who shall remain on the rear platform and have charge of the car movement. At the same time he will assist passengers in boarding and alighting and look out in every way for their safety. The second man, while nominally a conductor, will become in reality only a ticket taker or fare collector. He will at the same time look after the comfort of the passengers, seeing that the car is properly ventilated, that thoughtless persons who spit on the floor are reminded of the sanitary requirements, etc. All of this looks and sounds very well to the general public, and it is not strange that the idea has appealed with great force to those who are not familiar with the conditions under which the operation of cars is conducted. Its plausibility is what renders the proposition a particularly difficult one for the railway companies to combat. It seems to have appealed to the women of New York more strongly than to the men, for the idea has been championed by the several women's associations for some time, and a representative delegation of the officers of these associations was in attendance before the Board of Railroad Commissioners at the recent hearings to urge its adoption.

It is probably within bounds to say that no practical railroad man of broad experience can be found who is willing to go on record that two conductors on a street car are necessary or desirable. It would certainly seem that any question where safety of operation is involved should be divorced entirely from

sentiment and high-sounding platitudes, and decided solely upon its merits as a practical railway problem.

Let us take up the situation as it exists to-day in New York. The proposition of the Merchants' Association is that "two conductors be used on every car during the rush hours and on the long ears at all times." The question may fairly be asked whether the first clause refers to all lines or only to certain lines with heavy traffic? It is certainly conceivable that there are certain lines in Manhattan, Brooklyn and Queens on which the traffic would not at any time require two conductors. The other proposition is that the long cars shall have two conductors at all times. Here it may be asked how long must the ear be before this requirement shall take effect? There are so many different lengths of cars that it would seem only right, if the distinction is to be made between long and short cars, that the limit of length be specifically stated. One would naturally suppose that the crowded condition of the cars and not their length should be the determining factor. As between a long car with no standing passengers and a short car with the aisle filled, it might be found that each car had the same number of passengers, and yet the long cars would be easier for one conductor to handle than the short one. As a rule, the short cars are more likely to become crowded than the long ones, and it would seem that in such a case the distinction as to length is rather absurd.

It is a well-recognized and cardinal principle of railway operation that where safety is involved there shall be no divided responsibility. Two conductors on one ear means a divided responsibility. It might seem to one not experienced in the science of railway operation that a theoretical division of responsibility between two conductors could be made and enforced, but practical railway men who have devoted their lives to the business say it cannot be done with safety.

Instances are multiplied every day and with every trip of every car where passengers say to the conductor who collects the fares: "Let me off at 'G' Street," or "Stop at the next corner." In such a case will the conductor who collects the fares or the conductor on the rear platform become responsible for stopping the car? Must the conductor inside who collects fares transmit that request through a crowded car to the conductor on the rear platform who controls car movement before any signal can be given? This is only one instance of where the question of responsibility commences to get mixed, and it is one that is likely to happen frequently. We believe there are a great many things which concern the safety and regularity of the service, and in which one man, in spite of all rules, would frequently depend upon the other fellow. Here are a few of the things in which it is almost a foregone conclusion that an interchange of duties would often depend upon the convenience of one or the other employee:

(1) Examination of bulletin board and getting of correct time before starting work.

(2) The display of proper signs, adjustment of fenders and knowing that the car is equipped with the necessary signals and safety appliances.

(3) The proper adjustment and fastening of gates, side bars and side steps.

(4) The reporting of dangerous defects or breakages in apparatus, equipment or track, or the dangerous proximity of obstructions alongside the track.

(5) Flagging the car over dangerous steam railroad crossings.

(6) Assuming control and taking necessary action in case of accident involving personal injury, etc.

(7) The giving of proper signals from conductor to motorman and the interpretation of bell signals from motorman to conductor, such as back-up signals, set the rear brake signals, etc.

(8) The taking of necessary precautions, such as turning on

light circuits in case of thunderstorms with severe lightning.

(9) The responsibility when car becomes disabled and emergency action is necessary.

(10) The resetting of facing point switches (ordinarily little used) and leaving them O. K. for the main track.

(11) The responsibility for accepting for passage and taking aboard the car intoxicated persons who cannot care for themselves or who are disorderly or obnoxious, and the responsibility of ejecting such persons when necessary.

(12) The enforcement of the company's rules and the city ordinances, such, for example, that passengers are not permitted to ride on the front platform, which is considered a safety regulation.

(13) The announcing of streets, transfer points, route, destination, etc.

(14) The execution of all special orders as well as all the rules upon which safety depends.

The conductor whose specific duty it would be to collect fares would necessarily spend a considerable portion of his time on the rear platform, because he would go there to collect fares and because he could from there best keep track of those who enter. The presence of another conductor would naturally invite conversation and possible neglect of duty upon the part of one or both conductors. We believe that such a condition of affairs will inevitably result in confusion and accident.

There are other factors in the case, and one of them is that in this demand for two conductors there is no distinction made as between open and closed cars. It must be remembered that open cars are operated in New York for seven months or eight months of the year, and that the operating conditions with open cars are quite different from closed cars. It would seem almost absurd to place two conductors on open cars and require one of them to do nothing but stand on the rear platform and assist in confusing the work of the man on the side step, who comes into direct contact with the passengers and must act quickly upon their requests. Considered in every possible light two conductors violate the cardinal principle of undivided responsibility as necessary to safety in operation. We firmly believe, therefore, that those who advocate this proposition are entering upon dangerous ground when they propose to take away from trained experts in the science of railway operation the responsibility for safety, and place it upon men engaged in other lines of business, and upon women who imagine they could run a railroad.

Franchise Taxes in New York

In the discussion of the franchise tax decision by city officials and advocates of the Ford bill throughout the State, there seems to be a fixed determination to evade the evident purpose of the Appellate Division in ruling that certain provisions of the law were unconstitutional, without complying with the spirit of the court's decree. Many subterfuges have been suggested, and the spectacle is presented of city governments resorting to methods that are at least questionable to collect taxes from corporations. In this scramble for plunder New York has led the way, without any attempt at disguising the fact that the city had no valid claim recognized by law. The attitude of these officials suffers by comparison with that of the State officials, who have displayed a higher regard for the amenities as well as the respect which is due the process of the court and its rulings.

The Attorney-General has determined to appeal the case, and the Governor has decided to await the decision of the higher court before attempting to secure the enactment of the bill which he has advocated in place of the present measure. Those who favor the Ford bill, however, have caused to be introduced the original Ford Franchise Tax Law, without any of the clauses which have since been declared unconstitutional. The Ford bill, passed at the regular session of the Legislature in

1899, did not create a State Tax Commission, and did not provide for any rebate to corporations that had specially agreed to pay certain sums to municipalities for privileges they enjoyed. Both of these provisions were inserted at the extraordinary session of 1899, and both have since been declared unconstitutional. It is not seriously considered that the proposed measure will be enacted in opposition to the views of the Governor, who believes the principle of the Ford bill is wrong.

The Attorney-General, in announcing his decision to appeal the case, stated that he would contend upon the argument of the special franchise tax appeal before Court of Appeals, among other things, that the first section of the Franchise Tax law, defining these franchises as real estate, and, therefore, taxable property, is in no way affected by the decision of the Appellate Division, and that the only effect of this decision, if sustained by the Court of Appeals, would be to cause the assessment to be made by the local assessors of each city, town and village, instead of by the State Tax Commissioners, as it has been done since the statute was enacted. The Attorney-General will hasten the presentation of the case, and in this he will have the co-operation of the corporations affected, as they are naturally desirous of having a final decision.

Lessons from Chicago

At last, after months of delay and anxiety, it would appear that the settlement of the franchise question in Chicago is at least in sight, although it may be some distance off in point of time. It is very unfortunate, both for the interests of the Chicago public and for the companies, that this matter has been delayed so long. It is not necessary here to go into the history of the attempts of franchise renewals in Chicago in times past. It is sufficient to rejoice that there is a prospect that Chicago will before many years have a surface transportation system which will have no superior on the American continent. The franchise question developments (or lack of developments) in Chicago have been dealt with in detail in our columns for many months back, and it is opportune now, as it has been before, to call attention to a few lessons which street railway managers and stockholders as well as the general public can learn from conditions in Chicago.

A large amount of money must be soon spent in that city in reconstructing the street railway properties, and fortunate is the company that has freed itself as far as possible of heavy financial obligations as a preparation for this great expenditure.

Franchises in few cities are perpetual, and when they expire there should be some financial provision for either a return of the money invested to the stock and bondholders or for a general reconstruction if the physical condition of the property has been allowed to deteriorate pending franchise renewals.

It is most desirable in any case if it is a possible thing that franchise renewal matters be fixed up several years in advance of the franchise expiration. If it had been possible much hard feeling as well as public discomfort and financial loss on the part of the companies would have been avoided in Chicago if franchise renewals could have been arranged five years ago at the time such an attempt was made. Public sentiment, however, was against this, and the public have been the ones to suffer most in consequence. It is only reasonable to expect that no company will invest a large amount in the property where the franchise is about to expire with uncertainties as to the terms of renewal. It is, therefore, just as much the duty of the authorities as it is that of the company to seek to make such provision that the company will not be obliged, in self defense, to neglect the maintenance of its property.

SOUTHERN OHIO INTERURBAN IMPROVEMENTS

For several months there has been a movement on foot to make arrangements for the operation of through cars from Cincinnati to Toledo, on electric lines, and through the consolidation of the Southern Ohio Traction Company with several other properties in the southern part of Ohio, the Pomeroy-



INTERURBAN HEADQUARTERS AND EXPRESS STATION AT HAMILTON

Mandelbaum syndicate, of Cleveland, formed the Cincinnati, Dayton & Toledo Traction Company to accomplish this object.

As implied in its name, this company will form the basis for consolidation, or at least a traffic arrangement, with other roads already in operation or nearly completed, to provide the unbroken line from the Ohio River to Lake Erie. These roads are the Dayton & Troy, operating from Dayton to Piqua, the Western Ohio, under construction from Piqua to Findlay, and the Toledo, Bowling Green & Southern, operating from Findlay to Toledo.

The Western Ohio Railway will be completed next summer, and in anticipation of through traffic a number of improvements are being made on the present Cincinnati, Dayton & Toledo Traction Company's line between Cincinnati and Dayton. As is generally known the Southern Ohio Traction Company was formed in 1900, through the consolidation of the Dayton Traction Company, operating from Dayton to Miamisburg; the Cincinnati & Miami Valley Traction Company operating from Miamisburg to Hamilton, and the Cincinnati & Hamilton Electric Street Railway, operating from Hamilton to College Hill. These lines were among the pioneer electric roads of Ohio, and were built almost wholly along highways, with but little regard for grades and curves or roadbed, and the tracks were of the same character as those commonly used on the earlier roads.

The improvements made during the last year have been very extensive. The feeder systems and trolley line have been entirely rebuilt with the heaviest kind of construction. Portions of the track have been relaid and the grades have been greatly improved. Between Hamilton and Dayton three wooden bridges were replaced with I-beam steel bridges, and a considerable portion of the road was retied and reballasted. Between Middletown and Franklin, 6 miles were retied and reballasted, and a 2310-ft. trestle was abandoned, new roadbed built and

tracks relaid. Near Franklin a long trestle along a neck of the river was abandoned, and right of way was secured along the canal bank for a distance of over a mile. At Clear Creek a large trestle was rebuilt and concrete piles placed in the channel of the creek. Between Franklin and State Dam the company has purchased a private right of way formerly owned by the Big Four Railway, which will be used for double-tracking, and to afford means for reaching a fine gravel pit. A number of hopper-bottom dump gravel cars have been purchased, and the greater portion of the road will be reballasted. At present the company is engaged in rebonding the entire interurban system with 10-in. United States bonds, furnished by the American Steel & Wire Company, and at the same time it will replace the present angle-bars with 22-in. bolt continuous rail joints. This work will be finished before the opening of heavy traffic next spring.

Running into Dayton the company has purchased 2½ miles of private right of way, and this has been double-tracked. To provide for heavy traffic at this end of the line the company has installed at the Dwyer power station a storage battery of 290 cells, furnished by the Electric Storage Battery Company. This is connected in series with the Dwyer station, and cuts in automatically when the load is heavy.

The Hamilton & Lindenwald Electric Transit Company, operating 9 miles of city track, which was acquired by the syndicate early last year, and which became a part of the Cincinnati, Dayton & Toledo system

under the recent consolidation, has been greatly improved. Twenty-two new city cars have been installed, and the tracks and service greatly improved, with the result that the earnings



NEW TRACK AND OVERHEAD CONSTRUCTION OF CINCINNATI, DAYTON & TOLEDO SYSTEM

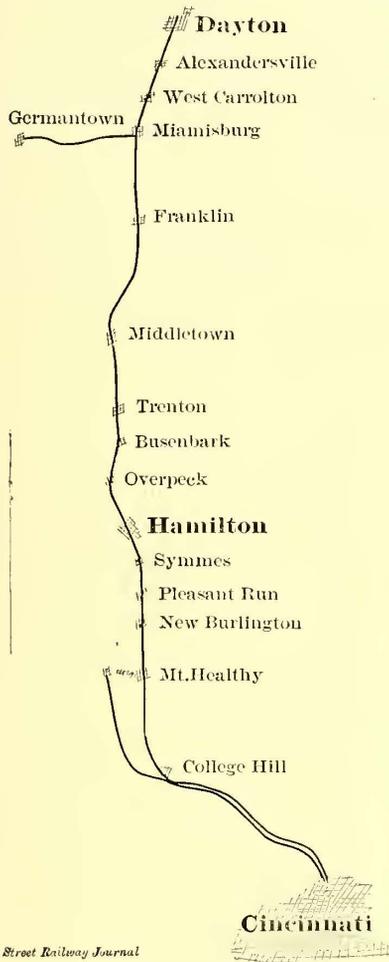
showed an average increase of 40 per cent during the last year.

The most important improvement made to the system was the absorption of the Cincinnati & Northwestern Railroad, a steam line operating from College Hill Junction to Mount Healthy, affording a much better entrance to Cincinnati than was heretofore possible. Incidentally it might be mentioned that this was the first steam road in Ohio to be absorbed by an electric street railway, and the right of a road of the latter class to absorb, or consolidate with, a steam road was questioned by a rival company, but the litigation resulted in a decision in favor of the electric company.

For years the interurban roads have been kept out of the heart of Cincinnati through the antagonism of the Cincinnati Traction Company, made doubly effective by the broad gage

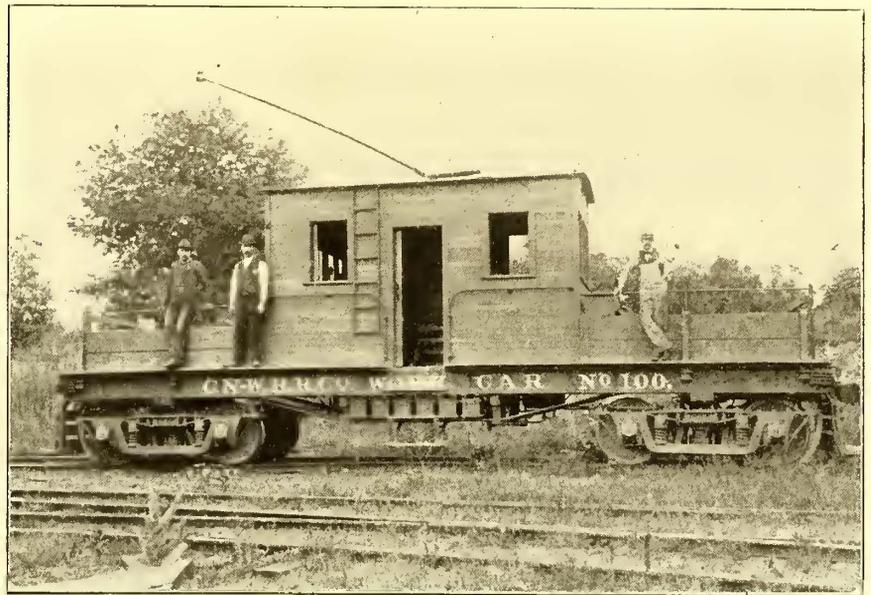
in these columns, the Cleveland people have recently perfected a "community of interests" with the Widener-Elkins syndicate of Philadelphia, which controls the Cincinnati Traction Company. The Philadelphia people have obtained an interest in the Cincinnati, Dayton & Toledo, the Miami & Erie Canal Transportation Company, better known as the "electric-mule project," and other propositions promoted by the Pomeroy-Mandelbaum people, and one of the provisions of the agreement was that the Cincinnati, Dayton & Toledo should be afforded direct entrance to Fountain Square, Cincinnati. To this end an interurban terminal company has been incorporated, and either by means of a private right of way, or a new city route not at present occupied by lines, the interurbans are to be admitted into the city. However, until this step can be taken the Cincinnati Traction Company has agreed to furnish a number of long double-truck cars to be fitted to conform to the double trolley and wide-gage city tracks. They will have cross seats and will be labeled and painted to conform to the Cincinnati, Dayton & Toledo cars, and will operate on the schedule and headway of the interurban line. A loop at the Spring Grove Avenue terminal station will permit passengers to step from one car into the other without difficulty or annoying delay. These cars will operate over a short route which will reduce the running time to and from Fountain Square by about twenty minutes.

In electrifying the old steam road, the Cincinnati, Dayton &



Street Railway Journal

ROUTE OF C., D. & T. RAILWAY



FREIGHT LOCOMOTIVE

tracks and the double trolley system used on its lines. College Hill, the former southern Ohio terminus, is about 8 miles from the center of the city, and while it is reached by one of the lines of the Cincinnati Traction Company, the service is infrequent, and the lack of proper connections has proved a serious handicap to the old Southern Ohio Traction Company. The purchase of the steam road and an extension of half a mile brought the interurban cars to Spring Grove Avenue, 5 miles from the center of the city, and this affords good connections with two city lines, which give frequent service. At the new terminus the company built a neat passenger and freight station with car shed and platform, ticket offices, waiting-room, toilet rooms and other conveniences. Baggage is checked from this point, and packing express is brought from all parts of the city in the Southern Ohio Express Company's express wagons. This particular feature of the service was explained in Mr. Lang's article in the last Convention Souvenir of the STREET RAILWAY JOURNAL.

The aim of the syndicate to gain a still better entrance to Cincinnati seems about to be consummated. As already related

Toledo has built an exceptionally good electric line. The road-bed was widened and double track laid with 70-lb. T-rail. Span suspension overhead is used, and poles are 35 ft. tall, with 8-in tops. The tracks are heavily ballasted with washed rock, and are bonded with 0000 Protected bonds. The trolley wires are 0000, and there are two 0000 feeders on cross-arms. The poles carry lines for high-tension service, but at present they are not in use. On account of heavy freight traffic and unusual grades at this end of the line the current consumption is very heavy. One of these grades is 4½ per cent, and is 2 miles long. A temporary sub-station has been erected to take care of this part of the service, current for which is supplied by the Cincinnati Edison Company, at 3600 volts alternating current, and reduced to 550 volts direct current by means of static transformers and rotary converter. This arrangement is only temporary, and it will be used only until contemplated improvements are perfected.

Aside from the sub-station, which feeds only the new line, and the battery installation at Dwyer, before mentioned, the company has made no additions to its power equipment in sev-

eral years, the four original stations of the consolidated properties being still in use. Much of the generating equipment is consequently out of date, yet, although the traffic has increased tremendously during the last two years, the per cent of operating expenses to gross earnings is very low and, it is claimed, decreasing rather than increasing, as is frequently the case with old roads.

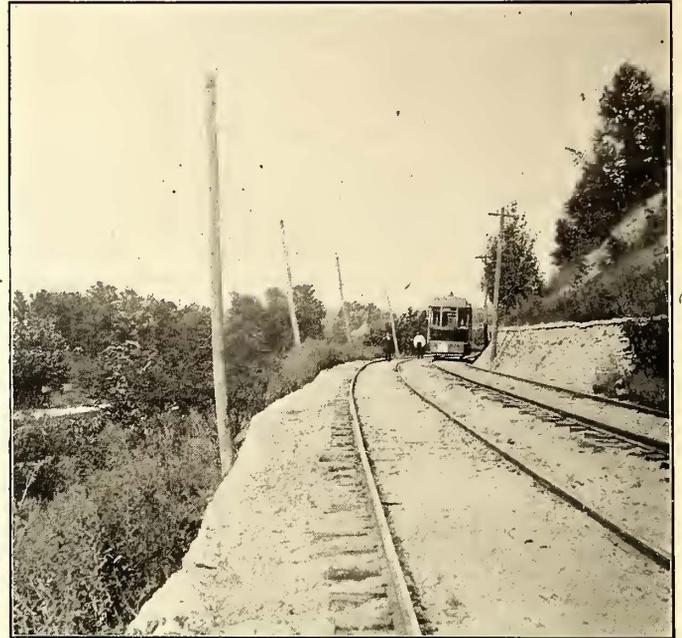
Recent statements of earnings and operating expenses follow:

	May 1, 1900 to April 30, 1901	May 1, 1901 to April 30, 1902	May 1, 1902 to Nov. 31, 1902
Gross earnings	\$303,703	\$353,144	\$266,216
Operating expenses	166,757	186,365	134,574
Per cent	54.7	52.9	50.4

The syndicate has long had in mind the erection of a large generating station in this section of the State to supply the Cincinnati, Dayton & Toledo, the Miami & Erie Canal, the Springfield & Xenia, the Western Ohio and possibly other roads, but the rapid development of the system in this portion of the State has rendered it doubtful where such a station could be located most advantageously, while the high economy shown by the present equipment of the Cincinnati, Dayton & Toledo has given rise to a doubt as to the wisdom of replacing it with a modern three-phase system of generation and distribution.

Through the acquisition of the Cincinnati & Northwestern, the Cincinnati, Dayton & Toledo inherited considerable car load freight business between Cincinnati, College Hill and Mount Healthy which promises to prove quite an item. The section between College Hill and Mount Healthy is used exclusively for freight business and the road serves both towns, the population of which being 2000 inhabitants and the 1500 respectively. There are several factories and brick yards on the line between these points. The company owns five flat cars, five

ticket offices instead of paying cash fares, thereby greatly reducing the possibility of loss through dishonest conductors. The company maintains fourteen ticket offices in as many



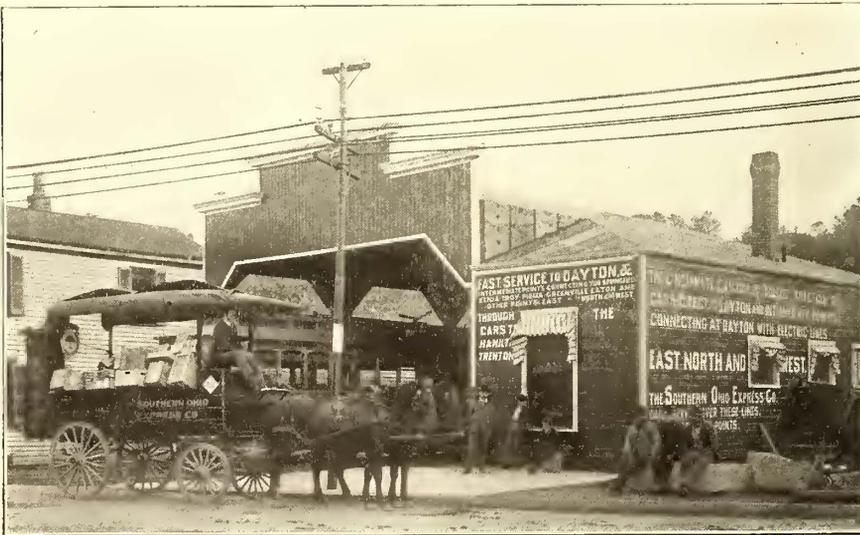
NEW ENTRANCE TO DAYTON OVER PRIVATE RIGHT OF WAY

towns, and except where passengers get on between stations, they almost invariably buy tickets at the offices; over 67 per cent of the receipts being in the form of tickets. In the majority of cases these offices are combined with waiting-rooms and package express rooms, and have men in charge at all times. The company's general offices, express office and waiting-room at Hamilton are illustrated.

Auditor John T. Huntington, of the company, has recently issued a new form of timetable which shows unique features. The front of the leaflet contains a map of the road. Each town on the line is given a separate table, and a patron at any town can tell the leaving time of a car and its destination; the latter being an important point since some of the late cars do not run through to the end of the line. A time card similarly arranged is contained in a handsome booklet entitled "Up the Great Miami Valley by Way of the Cincinnati, Dayton & Toledo Traction Company's Lines." The booklet describes points of interest along the line and contains a number of fine illustrations. It anticipates matters somewhat, since the cover shows the completed line from Cincinnati to Toledo, and one of the pages contains a list of the "principal towns along the Cincinnati, Dayton & Toledo." Included on this list are a

number of towns reached by the connecting links which at present are under independent managements. This announcement indicates, however, what the syndicate has in mind, and is accepted as evidence that it is prepared to develop the freight and express as well as the passenger business of their territory.

Here is an interesting paragraph from a chapter entitled "The Evolution in the Mode of Travel in the Miami Valley." "In a short time a full train of dining, sleeping and observation cars will start at Cincinnati and glide up the Miami Valley with all the comforts of home, the swiftness of lightning and the cleanliness of Spotless Town." The date of this innovation, however, is not given.



TERMINAL STATION AT SPRING GROVE AVENUE, CINCINNATI

gondola coal cars and one box car. These are hauled by a home-made electric locomotive and work car, herewith illustrated. It is fitted with Christensen air brakes, M. C. B. couplers and four G. E. No. 57 motors, and it will haul four heavily loaded freight cars over the 2-mile stretch of 4½ per cent grade. The company is a member of the American Railway Association and Central Traffic Association, and exchanges business with other roads under the per diem arrangement. Connection is made with the Cincinnati, Hamilton & Dayton Railroad at College Hill Junction, and foreign cars are hauled from that point to Mount Healthy for \$6 per car.

The Cincinnati, Dayton & Toledo Company has met with considerable success in educating its patrons to buy tickets at

NIAGARA TROLLEY LINES AND WINTER ATTRACTIONS

In the matter of location the trolley roads in and about Niagara Falls are especially fortunate. During the summer they enjoy a very heavy business, owing to the travel to and from the cataract, and unlike the majority of electric lines that cater to summer resort travel they enjoy a profitable business



WINTER SCENE IN PROSPECT PARK

even in the severest cold spells. It is then that the region in the immediate vicinity of the Falls is transformed into such a superb spectacle that thousands journey to Niagara to look upon the winter beauty. This is especially true on Sundays, when the influx of visitors to Niagara is so great that all the cars are crowded. Fortunately, the electric lines about Niagara have ideal rolling stock and ample facilities to provide the very best accommodations for the thousands that patronize them.

Prospect Park, Goat and Luna Islands, in the grasp of winter, require but a few hours of severe cold, aided by high winds, to transform the bleak spots into a veritable fairyland. The wind drives the spray-cloud back through the forest and park depths, and as it falls on bush, rock, shrub and tree it becomes congealed, and each form seems to be hewn from purest marble. When the sun shines there is a brilliancy that is dazzling in the extreme. With long continued cold a mammoth ice mound rears itself from the base of the Fall, and there thousands gather to indulge in coasting. This year an ice bridge has already formed in the gorge, but as yet it is not very substantial. This is because there has been no long cold spell to develop large quantities of ice up in Lake Erie, for that is the pond that is depended upon for the construction of the icy structures that span the river below the falls. It is not the freezing over of the river that makes an ice bridge, but the small cakes of ice that toss, tumble and roll through the upper rapids, plunge over the waterfall into the gorge, where they gather in such great quantities that the stream is bridged. A substantial Niagara ice bridge is of surprising thickness, and where it usually forms the water is about 190 ft. deep. The formation is so peculiar that it is no wonder people travel long distances to look upon it, and then cross from shore to shore over the rough, uneven structure, the beauty of which is unsurpassed. Two views, taken after a recent cold spell, are reproduced herewith.

MANHATTAN SCHEDULE SUBMITTED

The State Board of Railroad Commissioners, Jan. 27, received from the Manhattan Railway Company, of New York, a proposed schedule of train service based on recommendations of the Board to improve transit facilities on its lines. This schedule is now under consideration, but until the Board decides to approve or disapprove the document it will not be made public.

S. C. Mead, secretary of the committee on transportation of the Merchants' Association of New York City, appeared before the Commission and delivered a letter from William F. King, chairman of the committee, in which he asked for a copy of the new train schedule, and continued:

At various public hearings since you issued the above-mentioned order you have announced that the commission has been considering the other suggestions and recommendations offered by us looking toward an improvement of the service. You also stated that your body would very shortly order other improvements. In view of this, we now take the liberty of inquiring what recommendations, if any, you are prepared to offer on the following propositions which were submitted by us:

- "A system for facilitating entrance to and exit from the cars.
- "Adequate enforcement of the ordinances of the Board of Health with respect to cleanliness and ventilation in the cars.
- "Improvement and enlargement of the stairs and station platforms and the removal of obstructions therefrom.
- "The proper heating and lighting, at all times, of all cars.
- "The application of the electric shoe to the third rail from underneath, or at the side, or through a slot, thus protecting the third rail from the elements and doing away with the frequent delays to which the public has been subjected during recent snowstorms. This would also eliminate the dangers incident to the exposure of the third rail."
- We would also be pleased to learn what thought the commission is giving to these suggestions as to improvements of a more permanent nature submitted by us:
- "Alteration of route, particularly by adoption of loop at the Battery.
- "Use of two-story cars.



WINTER ATTRACTIONS AT NIAGARA—ICE MOUND AT FOOT OF FALLS

- "Increase of terminal facilities at City Hall Station.
 - "Improvement of track system at congested points and at terminals."
- The association would also be pleased to be informed when the shuttle train service on the Fifty-Eighth Street division of the Sixth Avenue line will be terminated, and what action, if any, will be taken looking forward to an improvement in the service on the surface transportation lines, both in The Bronx and in Manhattan.

HEARING ON THE TRAFFIC CONDITIONS OF THE METROPOLITAN STREET RAILWAY COMPANY OF NEW YORK

The hearing before the State Railroad Commissioners on the crowded conditions of the New York city surface cars was held in the Aldermanic Chamber, City Hall, Jan. 22. The Merchants' Association was represented by William F. King, S. C. Mead, Thereon G. Strong and C. M. Wicker, chairman of the engineering committee on transportation and sanitation of street cars. Other associations represented at the hearing were the New York Produce Exchange, Maritime Association of the Port of New York, Merchants' and Manufacturers' Board of Trade, Stationers' Board of Trade, West End Association, Homœopathic Medical Society of the County of New York, East Side Branch of the New York Retail Butchers' and Meat Dealers' Protective Association, Local Needs Committee, East Side Civic Club, Harlem Property Owners' Association, Special Committee of Committee of One Hundred, Mason Builders' Association of New York, and Morrisania Branch of the Woman's Municipal League.

The Interurban Street Railway Company, which leases the Metropolitan Street Railway Company, was represented by H. H. Vreeland, Oren Root, Jr., and H. A. Robinson. All of the Railroad Commissioners were present, and the hearing was also attended by Charles R. Barnes, expert of the Board, and F. H. Shepard, special transportation expert of the Board during this hearing.

Almost the entire day was spent in a cross-examination of Mr. Root on the traffic conditions of the city by the attorneys of the different citizens' associations represented. At the outset of the hearing Mr. Vreeland stated that the operation of the lines of the Union Railroad Company was entirely in the hands of E. A. Maher, president of that company, so that numbers 8 and 9 of the seventeen recommendations presented by the Merchants' Association for discussion and which related entirely to the service in the Borough of The Bronx, were omitted from consideration at the hearing.

The testimony of Mr. Root clearly brought out the fact that the congestion and crowded condition of the cars complained of by the Merchants' Association could be greatly ameliorated by the enforcement of efficient regulations covering the obstruction of the streets by trucks and other obstacles. Mr. Root also denied that the operation of cars in trains would be of any assistance in increasing the speed or in relieving the situation. In support of this position he quoted from the report of Mr. Arnold to the Chicago Council, in which this question was discussed and which recommended the unit operation of cars rather than the train operation. In this opinion Mr. Root said that he agreed entirely. He said, however, that if the vehicle traffic in the streets was under proper regulation the situation would be improved 25 per cent. He did not approve of the changes in routes recommended by the Merchants' Association, or concur in the advisability of putting two conductors on the long cars. This plan, he thought, would be productive of accidents on account of a division of responsibility between the two conductors.

President Cantor, of the Borough of Manhattan, who was present during the entire hearing, said in answer to a question that he had no power to regulate the street traffic, but would be glad to exercise that power if it was conferred upon him. He also explained that previous to the present investigation the city officials were in conference with the transportation companies in reference to improving the surface and elevated railway service, but had suspended negotiations pending the result of this hearing.

F. H. Shepard, special transportation expert of the Railroad Commission, then read a report on his investigations on the subject. This report is published elsewhere in this issue.

During the hearing a number of tables, showing the present car service on the different surface lines in New York with cars operated, passengers carried and seating capacity, were presented in evidence. The data for the most important north and south lines of the company have been plotted out graphically and are published on the opposite page. In this diagram the solid lines show the number of cars operated and their seating capacity. The number of passengers carried is shown by the light line. The hours during which the cars have more seats than passengers are indicated by the light line being below the solid line, and these hours are cross-sectioned to make the difference clearer between them and those where the number of passengers exceeds the seating capacity of the cars. The records were submitted to the Board of Railroad Commissioners by the Interurban Street Railway Company, and were for Dec. 29, 1902. This day, it should be stated, was snowy, so that the speed of the cars was slow. This makes the showing as to number of cars run by a given point per hour less than it would have been on a pleasant day. The record was taken on that day, however, as it was desired by the Commissioners by Jan. 1, and had to be compiled independent of the weather conditions.

At the close of the hearing Mr. Vreeland announced that his company had just ordered 200 new double-truck cars for the Forty-Second Street and Boulevard branch of the Third Avenue systems. In addition the Interurban Street Railway Company is planning immediately to spend \$5,000,000 in increasing its facilities in Manhattan by the installation of the underground conduit system on its crosstown lines as follows:

In Thirty-Fourth Street the storage battery system now in operation will be displaced by an electric line, with 5 miles of single track.

The Fourteenth Street line, from the North River to the East River, will have a spur through Avenue A to the Twenty-Third Street ferry, and will run down Avenue A, through downtown streets to the Grand Street ferry, over the route now served by the yellow horse cars. It will have 8 miles of single track.

The Grand Street line will extend from the North River to the East River, comprising 4 miles of single track.

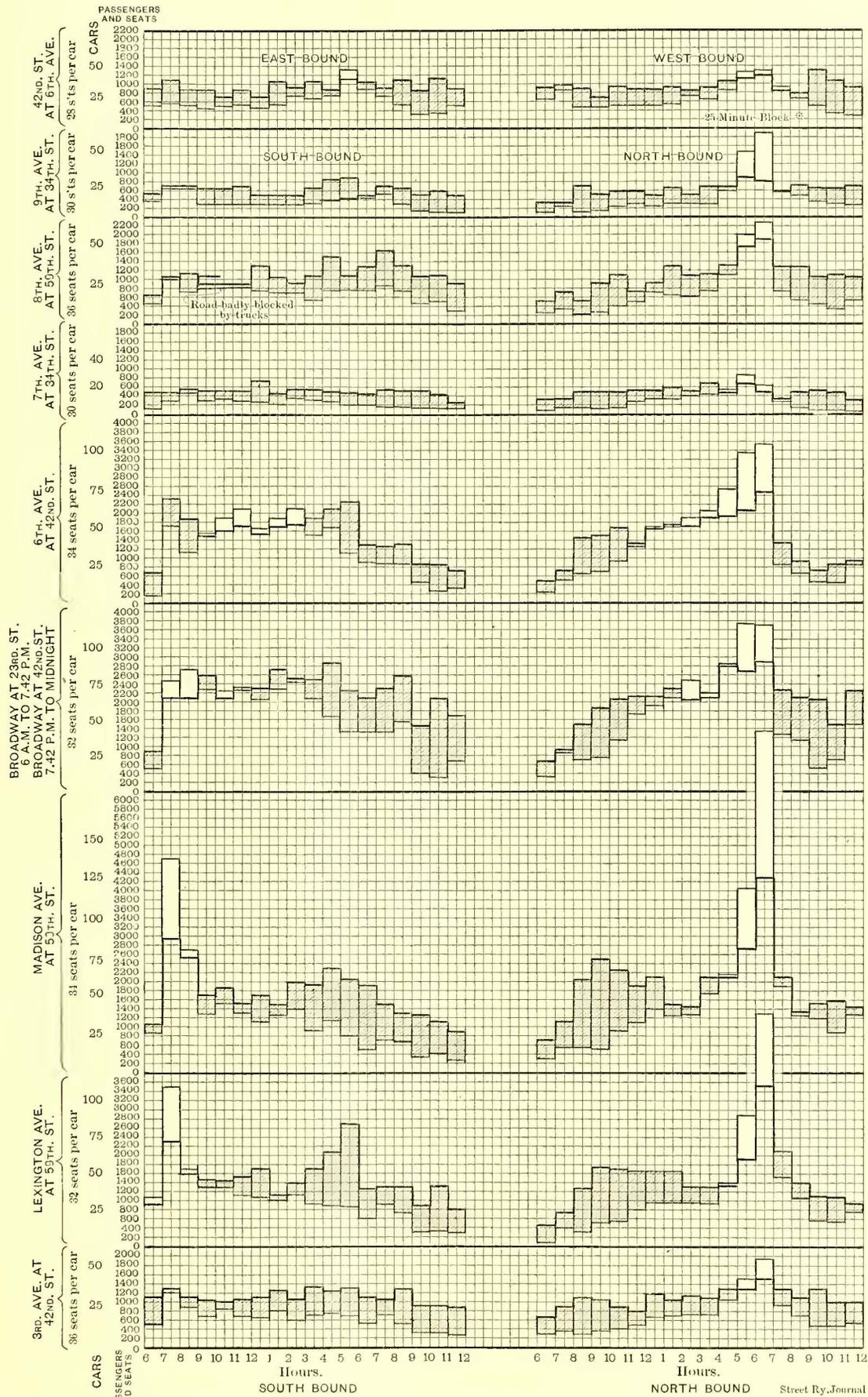
The First Avenue line will go from the Harlem River to Fourteenth Street, connecting with the crosstown lines, and allowing especially for distribution of traffic from the Fourteenth Street line east and west. It will be 11 miles of single track.

The work will begin early in March and will be rushed to completion. The rails, special work, switches and yokes for the conduits have been ordered, and a considerable amount has already been delivered.

F. H. Shepard, who rendered the special report to the Commissioners, mentioned above, is well known in electrical circles, having been connected for a long time with F. J. Sprague in connection with his multiple unit work. For Mr. Sprague Mr. Shepard installed the multiple unit system on the South Side Elevated Railway, of Chicago, and on the Boston Elevated Railway. The Commissioners do not often have to secure the services of outside experts, as Charles R. Barnes, the regular expert of the Commission, is an exceedingly able engineer, and is also very well conversant with traffic methods. Mr. Barnes' time, however, has been so fully occupied during the past month in following up the investigations instituted by the Commission in Brooklyn, that it was thought advisable to associate another engineer with him in the Manhattan surface investigation.

After the hearing the STREET RAILWAY JOURNAL interviewed several of the gentlemen most closely interested in the investigation as to the results secured at the meeting on Jan. 22. Their remarks are found below:

William F. King, chairman of the committee on franchises



GRAPHICAL REPRESENTATION OF CARS, PASSENGERS AND SEATS ON MAIN LONGITUDINAL SURFACE LINES AND ON FORTY-SECOND STREET CROSSTOWN LINE IN NEW YORK, DEC. 29, 1902

The heavy solid line indicates the number of cars run and seats available. The blank spaces indicate the number of standing passengers, and the shaded spaces the number of empty seats.

and transportation of the Merchants' Association, said: "The preliminary report of the special engineering and sanitation committee of the Merchants' Association outlined in a general way the position of the association on the seventeen topics discussed at the hearing on Jan. 22. The committee, however, is continuing its investigations and will have further recommendations to make. While the hearing before the Commissioners was on the whole satisfactory we do not feel that the officials of the railroad company gave us all the information in their power respecting the number of cars operated or schedules on the different lines in the city, particularly the lines east of Madison Avenue and west of Broadway, or that the company gave a satisfactory explanation why the traffic on Broadway cannot be relieved by running spur terminals from the Sixth Avenue and Eighth Avenue lines to the intersections with Broadway of such streets as Park Place, Broome Street, Canal Street and others. Mr. Shepard's report also did not discuss these topics satisfactorily. The most interesting feature of his report was the proposed subway construction at the junction of Broadway, Sixth Avenue and Thirty-Fourth Street to relieve the congestion at that point. This would be a desirable step if there should be sufficient room between the surface of the street and the top of the proposed Pennsylvania Railway tunnel to accommodate this subway, and also the proposed extension of the Rapid Transit Subway under Broadway. Our engineers have not yet considered the feasibility of the construction of such a subway. We do not wish our position in this investigation misunderstood. Our aim is simply to further the interests of New York city, and we are just as ready to co-operate with the transportation companies in securing rights to make improvements to their service as to criticise them if their transportation facilities are not as good as they can be made. We are not opposed to corporations, and their interests are our interests when they are for the benefit of the city. This was shown by the undoubted assistance which we accorded the Pennsylvania Railroad in its finally successful plan to secure an all-rail entrance into New York. Whatever the outcome of the hearing, however, we are here to stay, and if the Commissioners cannot discover any remedies for the situation or if they do not consider that they have the power to relieve it, we intend to carry our demands to those who have the power to ameliorate it." In conclusion Mr. King expressed himself as strongly in favor of an elevated belt-freight railroad to surround Manhattan Island, which, he said, would relieve the streets of a very large part of the present track congestion.

Mr. Jacob Cantor, president of the Borough of Manhattan, said:

"While I do not care to take up specifically each one of the seventeen points presented by the Merchants' Association of New York to the Board of Railroad Commissioners, some of which the association itself did not strongly endorse, I will say, in a general way, that I believe the hearings held in New York will bear fruit and accomplish much good. These hearings have focused the attention of the entire press and public upon the transportation problem. It is already evident that there is a better understanding among the people of the subject. The Board of Railroad Commissioners was already familiar with the situation, but I believe the hearings held here have given them certain facts and information which will be of value to them in developing a solution of the problem. The thing which impressed me most in connection with the hearings was the information brought before the Board concerning the lack of regulation of street vehicle traffic. There is no doubt in my mind that the bringing forward of this subject will result in the adoption by the Board of Aldermen of a code of "rules of the road," which can and will be enforced. I have already caused such a revised code of regulations to be presented to the committee on laws and legislation of the Board of Aldermen. Suggestions for such a code of rules are coming to us from

different sources since the hearings were held, and we are getting a large amount of information on the subject. I think the Board of Aldermen, with the information at its disposal, will be able to adopt regulations that will prove a distinct advantage in the operation of the surface lines. If it is true that the removal of vehicle interference will enable the street railways to operate more cars the city authorities will do what they can to bring it about. It seems to me that the following up of this matter will prove to be the greatest amount of good to come out of the present agitation.

"It is a very general opinion that with their present limitations the surface lines are operating in the rush hours about all the cars that can be handled. I believe that to be true. But at the same time I am of the opinion that more cars can be operated in the non-rush hours. The railroad people ought to remove this cause of complaint. It has always appeared to me that in the operation of the Broadway line it was a good idea to turn back over the cross-over at Houston Street a few cars and send them north to take care of the shopping district, and that the same thing should be done on other lines to a moderate extent only.

"I do not approve of the plan of changing the terminal of the Broadway cars that now stop at Seventh Avenue and Fifty-Ninth Street, and running them east and west on Fifty-Ninth Street, as has been suggested. If carried out this plan would result in drawing an increased traffic to the Broadway line, and that is the very thing everybody is trying to avoid. Those Broadway cars, which now start from Fifty-Ninth Street, are one of the best features of the Broadway service. They are intended to accommodate the distinctively Broadway traffic and should be continued.

"The opening of the subway next winter will, in my judgment, give only partial and temporary relief. If the northern part of the city, including The Bronx and Westchester, are to continue to grow, we shall need other subways. Plans are now being made for a comprehensive system of subway development. I believe that ultimately we shall need subways under each one of the north and south avenues."

REPORT ON STREET RAILWAY CONDITIONS IN NEW YORK

SUBMITTED BY F. H. SHEPARD, TRANSPORTATION EXPERT
TO THE BOARD OF RAILROAD COMMISSIONERS

The following is a preliminary report, based upon an investigation of the condition of and facilities for passenger traffic upon the surface lines of this city. In the limited time allowed it has not been possible, even in a superficial manner, to investigate some of the conditions referred to by the Merchants' Association, and in others, to formulate a conclusive recommendation.

OBJECTS OF INVESTIGATION

Briefly, the object of this investigation is to indicate what is necessary to secure—by reason of the overcrowding and slow progress of the surface cars on the streets:

1. Immediate relief.
2. Further ultimate relief and provision for future requirements.

In a subject of such almost unlimited scope the best conclusion can only be reached after the most thorough investigation; one that is of such extended time that the varying elements influencing traffic may each be given careful consideration.

CAUSE OF OVERCROWDING

The overcrowding on the cars is entirely due to their carrying capacity being overtaxed. The first suggestion for relief naturally is "more cars." The possible number of cars which can be passed along a single street depends entirely on their

average speed. Could the speed of the cars be doubled twice the number of cars could be run. Any proportionate increase in speed increases the possible number of cars in like ratio. The causes which limit the speed are:

LIMITS TO AVERAGE SPEED

(1) The necessity of frequent stops for the convenience of passengers boarding and leaving the cars and the duration of these stops.

(2) Obstructions to the free movement of the cars over the tracks ahead.

OBSTRUCTIONS TO AVERAGE SPEED

(a) Actual obstructions, such as vehicles occupying the track ahead of a car, either those driven over the track (such as trucks) or either cars operating thereon at such short interval ahead that full speed cannot be attained between stops for passengers, further reduce the possible average speed.

Thus, with the addition of moving vehicles, whether it be cars or trucks, the free movement of the cars is restricted and the average speed cut down.

OBSTRUCTIONS TO MAXIMUM SPEED

(b) Possible obstructions, such as pedestrians or vehicles turning onto or crossing the track, at all times limit the maximum speed which it is possible for cars to reach, thereby reducing the average speed although an apparently free track exists.

LIMIT TO ADDITION OF CARS

The continued addition of cars to tracks beyond a certain point will, therefore, cause a reduction in their average speed as to actually reduce the capacity for passenger traffic over the tracks. This is a condition which exists in lower Broadway and elsewhere at the present time in this city.

CONGESTED POINTS OF TRAFFIC LIMIT CAPACITY

Any point of unusual restriction requires a considerable space of free street and length of free run to recover the time lost and maintain the average speed; otherwise the capacity of the movement is limited by such restriction. This is a condition existing in crossing such thoroughfares as Canal Street and Fifth Avenue, and such lines of car traffic as exist at the intersections at Fourth Avenue and Twenty-Third Street and Thirty-Fourth Street and Broadway. In the time of heaviest traffic opportunity for "free run" does not exist, and thus it is that the actual capacity of a line may be limited by the ability to pass cars at a track intersection of street crossing.

LOCATION AND GROWTH OF TRAFFIC

Approximately 75 per cent of the passenger traffic on the surface lines is north and south. Probably an equal percentage of vehicular traffic, for the major portion of its course, follows the same movement. This is occasioned by the peculiar configuration of Manhattan Island, the resulting localization of interests and the necessary traffic between them.

The limited area and the tendency toward localization of interests is so great that large numbers of vast buildings have been erected, the thoroughfares to which, formerly accommodating hundreds, are now, under the changed conditions, severely taxed to afford passage for thousands of people.

REASON OF LARGE VOLUME OF TRAFFIC CONTINUING

The growth of New York in population, resident and transient, and as a mercantile and commercial center, has been phenomenal. This is evidenced no more strongly than in the demand for urban transit facilities. Relief will be secured when the completion of subways, tunnels and bridges is attained. Contemplating the future growth to be expected, even with the increase due to these facilities the demands for street service will not be lessened, but will be even more urgent than at present. The great demand for street service is because it exists on the street itself, and affords in convenience what no other transit can.

INFLUENCE OF SUBWAY ON CAR SERVICE

Since obstructions form such an important part in limiting the capacity for street car service, those occasioned by the necessary construction of the Rapid Transit Subway have been of the most grievous nature. They have affected the operation of the lines as follows:

Broadway.—Between Vesey Street and Chambers Street the Park Row obstructions have thrown into Broadway the burden of that trucking which should diverge at Vesey Street for the East Side. The non-completion of the "Elm Street Improvements" has failed to relieve Broadway of a large volume of trucking as far as Astor Place, much to the continued obstruction of the Broadway cars. Between Forty-Second Street and Forty-Sixth Street the subway constructions cause all traffic to run over the tracks, this resulting in serious restriction of speed and frequent blocking of all service. At Sixty-Sixth Street and Columbus Avenue subway constructions also cause serious restriction to free movement of Columbus Avenue cars and frequent blocks.

Lexington Avenue.—The Lexington Avenue cars are overtaxed, by reason of the passenger traffic diversion from the Fourth Avenue line, as well as restrictions to free operation on lower Broadway and by subway obstructions at Twenty-Third Street and Fourth Avenue.

Fourth Avenue.—The operation of the Fourth Avenue line is seriously impaired by the subway obstructions along Park Row, Center Street, and on Fourth Avenue from Astor Place to Thirty-Fourth Street, and on Forty-Second Street. The number of cars in operation has been reduced, and the delays have been continuous and have frequently resulted in blocks of long duration.

Third Avenue.—At its terminus, from the Brooklyn Bridge to the Postoffice Square, trucks are compelled to drive over the tracks. This, with the subway operations, causes slow movement and frequent blocks of service.

Second Avenue.—The Park Row and Center Street subway obstructions have necessitated a reduction in the service, and the operation of the cars has met with the same difficulties and detention as those of the Fourth Avenue line.

Forty-Second Street.—The extent of the subway operation and continued obstructions on this line has caused almost entire cessation of anything approaching regularity of service. This condition is further aggravated by the heavy volume of vehicular traffic traversing this street.

Sixth Avenue.—Continuous delay and many serious blocks have occurred on this line between Sixty-Fifth Street and Seventy-Second Street by reason of subway obstructions and operations of the subway contractors.

INSUFFICIENT PROTECTION TO TEAMS

Many of the delays due to the subway operations have been caused by teams breaking through the planking or falling into the excavations. This raises serious question as to whether or not sufficient protection has been given to vehicular traffic. The most serious crowding follows in the first cars freed from a "block" or serious detention of cars. Thus it is obvious that the comfort as well as the convenience of the passengers depends upon the continuity of the service.

RELIEF WHEN SUBWAY COMPLETED

The completion of the subway will remove one of the most prolific causes of vexatious detention on these lines.

NARROW STREETS AND INSUFFICIENT TRAFFIC REGULATIONS

Many of the streets operated over are narrow, and in order to secure free movement of the cars the most effective co-operation of all street traffic should be secured. In view of the large mercantile interests affected it is undoubtedly true that trucking should be as free and unlimited as possible. The "greatest good for the greatest number" should, however, dictate that consideration which is due to the thousands of passengers using the cars.

Perhaps the most frequent cause of derangement of car service, and serious loss of time and inconvenience to its patrons, is due to trucks stalled or broken down so as to completely obstruct the tracks. This may be due to too heavy loads being undertaken or to defective vehicles being used.

SAND ON ASPHALT

"Horses fallen on tracks" is another frequent cause of long delays to the car service during slippery weather. This is especially so on the asphalt pavements, which are now used so extensively. A large part of this trouble could, no doubt, be alleviated if the pavements were sanded. Proper sanding of the asphalt would also relieve the track roadway of much heavy trucking which now follows it to take advantage of the better footing obtained there.

LOADING AT CURB LINES

The loading and unloading of vehicles at the curb line sometimes blocks the tracks completely, and often blocks much more of the street than is at all necessary. This compels all street traffic to follow the tracks, thus restricting the free movement of cars. If trucks generally would load at the side instead of at the end, and as near as possible the curb line, it would afford very considerable relief from this cause.

USE SIDE ENTRANCES

If the side streets and entrances were used for loading and unloading, as is frequently possible, instead of the busier thoroughfares, much less congestion would be entailed. Cabs waiting for their "fares" and cab "stands" in many places obstruct the main thoroughfares and turn a heavy volume of traffic onto the car tracks. These might almost, if not quite as convenient to a few, move to side streets of entrances to the great saving of time to the thousands who use the cars.

VEHICLE REGULATION IMPERATIVE

In general, all vehicles should not use the track roadway except where necessary to pass other vehicles. It is believed that regulations governing the movement of vehicular traffic could be enforced which would not only add to the facility for car movement, but would also expedite materially the movement of all vehicles. In order to draft a set of regulations a careful and extensive investigation would be necessary, which, in the limited time, is not possible for this preliminary report.

COMPARISON OF TRAFFIC

That the demand for car service has far outstripped the facilities offered during the past few years is patent even to a casual observer. An instance is that of the Broadway line, including the Lexington Avenue, which has increased from a maximum passenger traffic for the busiest hour one way from 14,500 on April 19, 1899, to 21,000 on Dec. 11, 1902; an increase of 46.2 per cent.

In an endeavor to accommodate this traffic cars are now only operated, even with the latest electrical equipment, at an average speed no greater than that obtained by horse traction.

TRAFFIC IN LONDON

To instance congestion existing in New York the following data, obtained from an article by Hon. Robert P. Porter, in "Traction and Transmission," the leading journal on such subjects in England, relative to the dense traffic congestion in London was given:

Vehicles converging and diverging during the busiest hour of traffic:

The Bank.	774
Charing Cross.	692
Picadilly Circus.	643
Oxford Circus.	627
Elephant and Castle.	597

OBSERVATION IN NEW YORK

From observation, taken Jan. 15 of this year, the actual count showed a movement far in excess of these figures. At two points of observation the movement was shown to be per hour at the rate of:

Fulton Street and Broadway.	1176
Spring Street and Broadway.	944

It is understood that even these figures are often exceeded, and that for each day for two weeks before Christmas the maximum was fully 25 per cent higher.

The following shows the car movement at some of the restricted points of intersection:

Street Intersection	Rate per hour	Date of Observation
Broadway and Twenty-Third St. .	573.	Jan. 12, 1903
Twenty-Third St. and 4th Ave. .	580.	Jan. 13, 1903
Broadway and Thirty-Fourth St. .	464.	Jan. 12, 1903
Fifty-Ninth St. Circle.	412.	Jan. 13, 1903
Astor Place and 4th Ave.	540.	Jan. 14, 1903

Thirty-Fourth Street Crossing.—Of these intersections Thirty-Fourth Street and Broadway causes the most delay by reason of the oblique crossing of the Broadway and the Sixth Avenue lines in such close proximity to the right-angle crossing of the Thirty-Fourth Street line. This intersection actually limits the service of the three respective lines. The rapid development and change in the character of the territory adjacent to this point is daily causing more and more congestion. This is due, not alone on the cars, but to the large increase in vehicular traffic and pedestrians.

Twenty-Third Street Crossing.—The difficulty of car movement at Twenty-Third Street and Broadway is vastly relieved by the extent of the street room available for other traffic, although the vehicular traffic frequently assumes such large proportions as to seriously restrict the car movement.

At Twenty-Third Street and Fourth Avenue the greatest skill is necessary to pass the number of cars operated during the time of maximum traffic. Additional burden is put on this intersection at present by the necessity of vehicular traffic following the tracks because of the subway obstructions.

Fourth Avenue and Astor Place.—It is doubtful if more cars can be run at Fourth Avenue and Astor Place, since the tracks are obstructed by the relatively slow movement necessary in switching the cars to and from Fourth Avenue.

CHANGE STOP TO NEAR SIDE OF STREET

Many stops are necessary on the near side of the street; for instance, at street crossings which are on streets on which are located fire apparatus, and intersections with car tracks, and at cross streets crowded with vehicle traffic. The common practice of stopping at the far side of cross streets undoubtedly had its origin in the necessity for stopping the car platform at cross-walks. This is not a factor of material consequence in New York city.

If the stop at the far side of the street to take on and discharge passengers were abandoned for that on the near side, fewer stops would be necessary and the average speed would not be limited by such additional stoppage. Then, again, the danger of collision with other traffic would be lessened.

Since the subjects for investigation recommended by the committee on franchises and transportation of the Merchants' Association of New York form an important part of this investigation, they are treated individually as follows:

MERCHANTS' ASSOCIATION RECOMMENDATIONS

(1) "Full and continuous service on all lines owned and controlled by the Interurban Street Railway Company by the running of all cars necessary for the speedy movement and proper accommodation of the public so far as physical conditions permit."

The full consideration of this subject requires detailed and specific investigation of all of the influencing conditions of all traffic. This has not been possible in the limited time, but the observations and conclusions already advanced, however, all lead to that end.

(2) "Ample and frequent service on the lines east of Madison Avenue and west of Broadway, and particularly the Sixth Avenue line, in order that such increased facility on those lines may induce their use by the public, thereby relieving the heavy traffic on the congested main lines."

The increase in efficiency of the lines indicated would tend

to diversion of traffic from the main lines. Some relief will be secured when the Second Avenue cars are operated down streets east of the Bowery to Park Row, as has been suggested.

Sixth Avenue is incapable of attractive service at its lower end by reason of the extreme congestion due to the traffic movement on the streets run over, and especially on West Broadway south of Canal Street. If the streets were better policed much immediate relief would be afforded, for future relief regulations of truck movement should afford much further improvement.

(3) "The practicability of hereafter turning northbound Broadway cars into Sixth Avenue at Thirty-Fourth Street and northbound Sixth Avenue cars into Broadway at Thirty-Fourth Street, thus abolishing the congestion at that point."

As far as the movement of cars is concerned it would be greatly facilitated and much congestion eliminated.

The diversion of long-established lines of travel and the derangement of business interests that has followed them, which would be necessitated by the changing of the car routes would, however, it is believed, not be compensated for by any freedom of car movement thus secured.

A drawing and preliminary plan is herewith presented which shows the practicability of a method of relieving this point of congestion by means of depressing the Broadway tracks under Thirty-Fourth Street.

(4) "The practicability of extending the Broadway route so as to avoid transfers at Fifty-Ninth Street and turn east and west along Fifty-Ninth Street."

The Fifty-Ninth Street line east of Fifth Avenue is overcrowded, and freedom of car movement is greatly restricted by the narrowness of the street. The Sixth Avenue service already runs east and west on Fifty-Ninth Street, and it is believed that through service from Broadway would lessen that diversion to other lines, which is so important to relieve the Broadway congestion of passenger traffic.

(5) "In view of the narrowness and crowded condition of Broadway between Seventeenth Street and Twenty-First Street, it should be considered whether the public convenience would not be promoted, dangerous congestion at Twenty-Third Street and Fourth Avenue prevented and the facilities for con-transportation increased if the Lexington Avenue cars were to run east from Broadway along Fourteenth Street to the junction with the Madison Avenue line and thence up Fourth Avenue to Twenty-Third Street and along Twenty-Third Street to Lexington Avenue."

Concerning the question of prevention of congestion at Twenty-Third Street and Fourth Avenue an actual count, including the Lexington Avenue cars operating on Twenty-Third Street, shows a maximum movement on Fourth Avenue at the rate of 160 cars per hour in one direction, and on Twenty-Third Street track a movement at the rate of 164 cars per hour in one direction at the same time.

The additional burden to Fourth Avenue of the Lexington Avenue cars would result in increased congestion at this point, already seriously congested. In addition to this the switching movement contemplated would be much slower and obstruct the tracks longer than the present right-angle intersection of the Lexington Avenue cars. These objections make the change of route physically impracticable.

In regard to public convenience an actual count shows that 26.4 per cent of the passengers on the southbound Lexington Avenue cars are distributed between Twenty-Third Street and Fourth Avenue, and Fourteenth Street and Broadway from 7 a. m. to 8 a. m., and 46.2 per cent so distributed from 8 a. m. to 9 a. m. This would indicate that between 40,000 and 50,000 passengers on the Lexington Avenue line would need transfers, or else be required to walk to and from the point most convenient for them to use the cars.

(6) "The extension of the crosstown Eighty-Sixth Street line beyond Eighth Avenue and the change of motive power to electricity."

This extension would afford great convenience to many crosstown patrons, as no crosstown line exists on the upper West Side. It is understood that the railroad company is anxious to secure consent for the construction of this line.

(7) "The entire subject as to whether the efficiency and character of service on the downtown crosstown lines is such as the public has a right to expect."

Opportunity has not been afforded for a detailed investigation of this service. Much obstruction has been caused to the traffic by subway operations, and the service is further restricted by large volume of trucking which follows the streets operated on.

It is understood that a change is to be made to electric operation, and some relief will be experienced at that time. Possible regulation of trucking may be expected to afford additional future relief.

(8) "As at present operated, the surface lines in the Bronx and other suburban districts do not furnish adequate, or, in fact, any suitable accommodation for the protection of passengers at junction for transfer points."

Any consideration has been impossible in the limited time available for this investigation.

(9) "The service of said roads in point of frequency of running cars is entirely inadequate to the public needs and should be treated on the same principle as increased accommodations in Manhattan."

Any investigation of the service maintained has not been possible.

(10) "The removal of unused car tracks in Greater New York, provided the city will safeguard the present franchise rights to the future use of those streets from which said tracks are removed."

This is a question not within the province of my investigation.

(11) "The question of vestibuling cars."

The congestion of street traffic and close headway of operation of the cars in New York city require the least possible obstruction to the vision of the motorman. It is believed that the use of vestibules would largely increase the number of accidents as well as restrict the speed of operation.

(12) "The question of two conductors on every car during the rush hours and on all the long ears at all times."

The division of responsibility here entailed is a strong objection to the adoption of this plan. Sufficient time has not been afforded to reach any conclusion as to the relative merit of this suggested mode of operation.

(13) "The question of the issuance of transfers at junction points and the proper marking of all cars to show the route and destination of each car."

Owing to the absence of specifications as to these points no investigation has been possible.

(14) "The promotion of proper police regulations of trucking and traffic on the streets through which lines are operated."

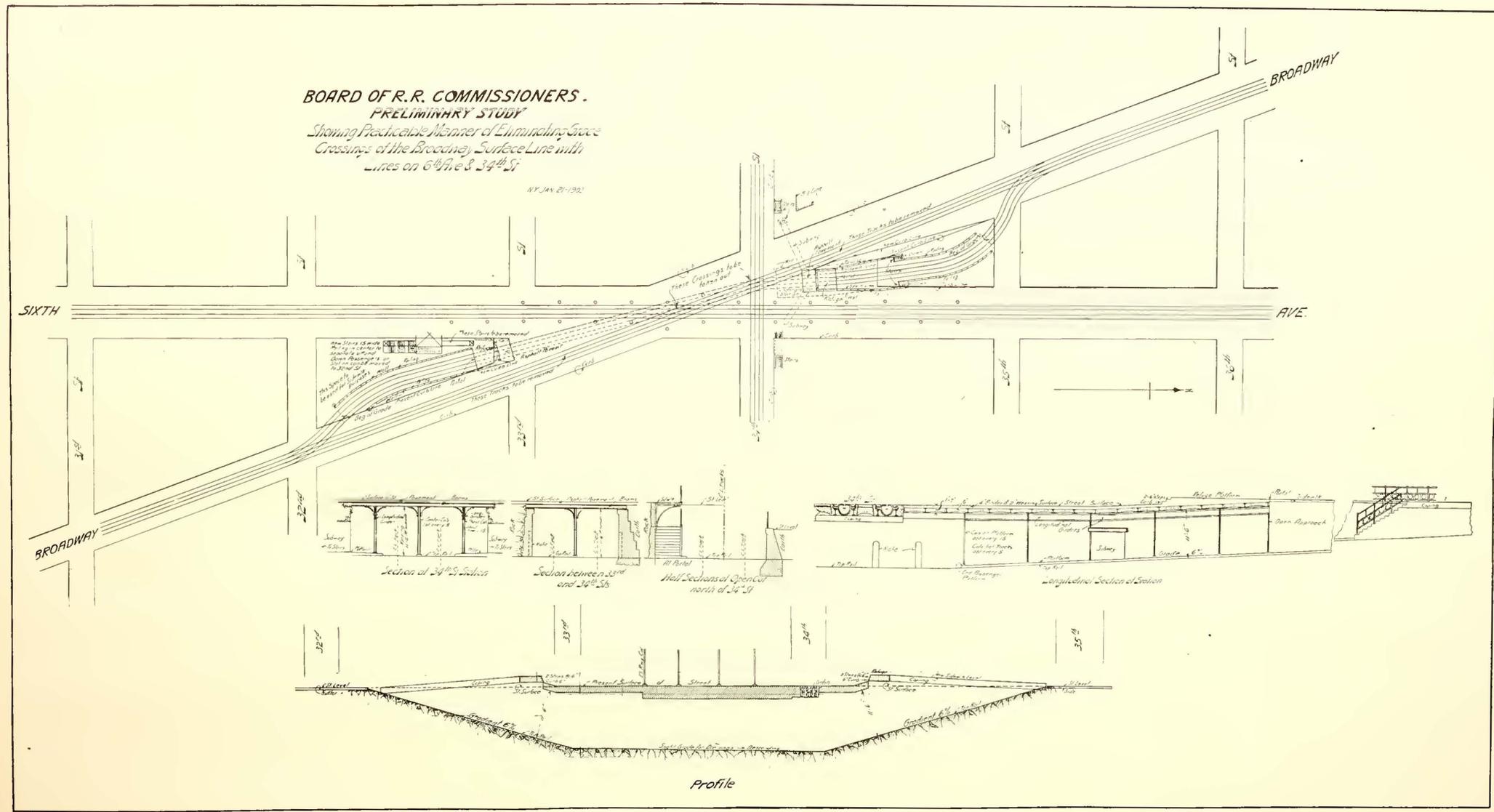
More immediate relief can be secured by this means than through any other or through all other suggestions.

The "Rules of the Road," drafted by William P. Eno, would, if strictly followed, result in material improvement in the movement of traffic. Additional regulation of track obstruction in specific cases would, if wisely administered, work the "greatest good to the greatest number," and need not materially embarrass the movement and handling of vehicular traffic.

(15) "The removal of obstructions of all kinds, including snow, from the public portions of the streets on which our lines run."

A heavy snowfall practically paralyzes all vehicular traffic, and that which is carried on follows the car track, with the result that the car service is severely restricted and the capacity for passengers greatly lessened.

Any street obstruction throws additional burden of traffic upon the track roadway, and at a congested point of traffic will limit the capacity of the tracks for car service.



SUBWAY PLAN PROPOSED BY F. H. SHEPARD FOR RELIEVING CONGESTION OF BROADWAY AT THIRTY-FOURTH STREET

Many obstructions during building operations assume a prominent nature, often continuing for weeks. Most of these could very readily be limited without material restriction of building operations.

(16) "The question of the enforcement of public ordinances respecting ventilation and cleanliness."

This question has not been undertaken.

(17) "The prevention of permitting passengers to stand between seats in open cars."

When the traffic demands exceed the seating capacity of the open cars in service additional passengers must stand or else wait for a seat in subsequent cars. This latter method is the Continental practice, but the enforcement of such regulations here would be practically impossible. This is shown by the present insistence of the traveling public to board the first car, regardless of the greater comfort that may be obtained in succeeding ones.

RECOMMENDATIONS FOR IMMEDIATE RELIEF

(1) The elimination of street obstructions wherever possible under existing ordinances.

(2) Taking on and discharging passengers at the near side of street intersections.

(3) The use of sand on the asphalt pavements when slippery.

(4) The removal from congested thoroughfares on which cars are operated of all idle vehicles; that is, those not in motion or taking on or discharging loads.

(5) The restriction of the movement of vehicular traffic across track intersections, wherever possible.

(6) When the accomplishment of the above is secured the operation of more cars during maximum traffic up to a point within the number that would restrict the capacity of the service.

The adoption and enforcement of the foregoing will secure more comfortable and expeditious movement of the present passenger traffic. With the growing demands the relief will, however, be only temporary, and additional facilities will be required in the future.

FOR FUTURE ULTIMATE RELIEF AND FUTURE REQUIREMENTS

(1) Specific regulation of vehicular movement at all points where the car service is required.

(2) Provision on vehicles to discharge loads without obstructing the tracks.

(3) The designation of the official body to secure compliance with the above.

(4) The removal of the obstructions caused by the building of the Rapid Transit Subway and the opening of Elm Street to traffic.

(5) The construction of a track subway for the Broadway cars at Thirty-Fourth Street.

(6) The diversion of the Second Avenue cars to an East Side route.

(7) Widening of Central Park West to divide the streams of heavy traffic and keep it from the tracks.

(8) The use of large cars on the congested lines as is contemplated.

The above recommendations will all contribute to the improvement in capacity of the car service. Beyond this point further capacity can be obtained in either or both of two ways:

First. Operation of cars in trains.

Second. Reduction in stopping places.

SALE OF THE STANLEY COMPANY

It was authoritatively stated on Jan. 28 that the controlling interest in the Stanley Electric Manufacturing Company, of Pittsfield, Mass., had been purchased by the General Electric Company.

REPORT OF THE SPECIAL ENGINEERING AND SANITATION COMMITTEE OF THE MERCHANTS' ASSOCIATION OF NEW YORK

The preliminary report of the engineering and sanitary committee of the Merchants' Association of New York on the points under discussion between that body and the Interurban Street Railway Company is given below. The report is signed by the members of the committee, viz.: Cassius M. Wicker, chairman; H. W. Brinckerhoff, Foster Crowell, C. H. Myers, George A. Soper, Ph. D., and S. Whinery. It is as follows:

REPORT

Your committee, in submitting the following report, wish to state that the time since our organization has been too brief to fully consider all the propositions which have been referred to us and which are contained in your communication to the Board of Railroad Commissioners of the State of New York, under date of Jan. 5, 1903. Some of them necessarily must be treated very generally. It is regretted that your committee were not appointed at an earlier date in order that they might have been present at the first two hearings of the commission, and to have earlier come into possession of the engineering and operating details that would have enabled us to treat the subjects more fully. We have, however, endeavored to answer your questions in detail and in the order named:

(1) Full and continuous service on all lines owned and controlled by the Interurban Street Railway Company by the running of all cars necessary for the speedy movement and proper accommodation of the public, so far as physical conditions permit.

The practical carrying out of this proposition depends, as to extent and completeness, upon a number of contributory causes which are embraced in some of the other propositions which follow, and which will be treated of more in detail under their respective heads. Generally, however, as will appear in our remarks under other heads, we firmly believe from the evidence before us, that the surface roads are not doing all they can to relieve the congested traffic on the important central north and south arteries of the city and the more important crosstown lines.

(2) Ample and frequent service on the lines east of Madison Avenue and west of Broadway, and particularly the Sixth Avenue line, in order that such increased efficiency on those lines may induce their use by the public, thereby relieving the heavy traffic on the congested main lines.

This proposition requires very careful study and differentiation between the various lines referred to, some of which are apparently, at present, in as congested a condition as Broadway itself. While your committee has utilized all the time at its disposal in endeavoring to ascertain the present condition, it yet feels that the subject is too intricate to dispose of until we shall have been able to study it more closely.

So far as the Second, Third, Seventh and Eighth Avenues are involved we are decidedly of the opinion that increased service on these avenues, tapping Broadway from the side streets at various points will, if the service is continued persistently, extensively relieve much of the traffic that now seeks Broadway, Fourth Avenue, Sixth Avenue and Lexington Avenue. We realize that the immediate return for largely increasing the present service on Second Avenue, Third Avenue, Seventh Avenue and Eighth Avenue might not be attractive to the railroad company, but with more rapid service, more accommodations and less congestion would soon become apparent to the traveling public, and these comparatively free avenues would become more largely used, thus relieving the congested districts.

(3) The practicability of hereafter turning northbound Broadway cars into Sixth Avenue at Thirty-Fourth Street and northbound Sixth Avenue cars into Broadway at Thirty-Fourth Street, thus abolishing the congestion at that point.

We find that there would be no structural difficulty in

making the proposed changes in the tracks, and that, on some accounts, the conditions surrounding the present crossings might be materially improved thereby. But in our judgment the desirability of such a change depends upon considerations of a different nature, involving the convenience of the public in transferring and the ultimate distribution of the traffic. In regard to both of these points the committee have not had opportunity to make sufficient investigation.

We do not regard such a change as at present necessary, for the reason that our observations indicate that the capacity of the Thirty-Fourth Street crossing is not nearly reached by the present traffic. The operating company has stated to us that as many as 975 cars have, under favorable conditions, been passed over this crossing by the three lines in one hour, and that 75 per cent of this number is a reasonable estimate of a normal hourly capacity, whereas, at the rush hours, during the days of our observation, the total number of cars in any one hour did not exceed 492.

(4) The practicability of extending the Broadway route so as to avoid transfer at Fifty-Ninth Street and turn east and west along Fifty-Ninth Street.

The Broadway route referred to is that which starts at Fifty-Ninth Street and Seventh Avenue to come down-town, connecting with the main line at Fifty-Third Street and Seventh Avenue, and thence continuing to and through Broadway. The committee fails to see any advantage in making such a change, for the reason that these cars are apparently needed for a special, supplementary service on Broadway, and the traffic coming from east and west can make use of more direct lines to downtown points.

(5) In view of the narrowness and crowded condition of Broadway between Seventeenth Street and Twenty-First Street, it should be considered whether the public convenience would not be promoted, dangerous congestion at Twenty-Third and Fourth Avenue prevented and the facilities for transportation increased if the Lexington Avenue cars were to run east from Broadway along Fourteenth Street to the junction with the Madison Avenue line and thence up Fourth Avenue to Twenty-Third Street and along Twenty-Third Street to Lexington Avenue.

After careful investigation we do not think this change desirable for two reasons:

First. In our judgment the present congestion at Twenty-Third Street and Fourth Avenue would be increased instead of being diminished; and,

Second. We are of the opinion that any surplus room for additional cars on Fourth Avenue should be utilized for the direct traffic of that line. We believe that the present congested condition on that part of Broadway may be greatly ameliorated by proper police regulation of the movement of vehicles.

(6) The extension of the crosstown Eighty-Sixth Street line beyond Eighth Avenue and the change of motor power to electricity.

The desirability of extending and improving this route has long been apparent, and we recommend that steps be taken to secure the repeal of the legislative acts that now block the improvement. If further legislation is found to be necessary strenuous effort should be made to secure it. A continuous crosstown line at this point would not only afford communication between the sections east and west of the park—a result much to be desired—but would materially relieve travel on Fifty-Ninth Street and other crosstown lines.

(7) The entire subject as to whether the efficiency and character of service on the downtown crosstown lines is such as the public has a right to expect.

It is apparent that the present conditions on most of the downtown crosstown lines are deplorable, and in no case are they satisfactory. We are informed that permits for the reconstruction of these lines have been granted, the stock issue authorized, and that extensive improvements have been contracted for. In the meanwhile, however, the sanitary condi-

tion of the cars on these lines is abominable, and should be rectified at once. We would urge the enforcement of the existing sanitary ordinances on these lines, and improvements to the cars indicated more specifically in our discussion under Proposition 16.

(8) As at present operated, the surface lines in The Bronx and other suburban districts do not furnish adequate, or, in fact, any suitable accommodation for the protection of passengers at junction or transfer points.

Your committee is of the opinion that at all points where the public is subjected to exposure suitable shelter should be provided. Especially should shelter be provided in existing buildings, if the physical conditions of the junction point are such that shelter cannot be provided in close proximity to the tracks. Much can be done in this direction in Manhattan as well as in The Bronx. An island of safety, with suitable roof, should be constructed at the end of Seventh Avenue and Fifty-Ninth Street. A shelter should also be provided at Columbus Monument, at Seventy-First Street and Broadway, on the Parkway, between the tracks, and at many other points in Manhattan.

(9) The service of said roads in point of frequency of running cars is entirely inadequate to the public needs and should be treated on the same principle as increased accommodation in Manhattan.

Your committee has not had the opportunity to make sufficient observation in The Bronx on this point to enable us to answer the question involved in this proposition.

(10) The removal of unused car tracks in Greater New York, provided the city will safeguard the present franchise rights to the future use of those streets from which said tracks are removed.

We recommend that all unused tracks, except curves and connections necessary for use in emergencies, be removed from the city streets, such removal not to affect any franchise rights that now exist—such rights to be safeguarded by legislative action if necessary. The removal of these unused tracks would facilitate vehicle travel over the streets now occupied by them, and thus tend to relieve congestion on other streets.

Before any of these now unused tracks are removed we would advise a more thorough examination of the location, and especially the traffic possibilities of each, with a view to turning cars from Second Avenue, Third Avenue, Seventh Avenue, Eighth Avenue and Ninth Avenue into the congested districts over these tracks. It is possible that many of these tracks can be utilized to relieve the present congested district.

(11) The question of vestibuling cars.

In the view of your committee the vestibuling of surface cars in New York city is not desirable.

(12) The question of two conductors on every trolley car during the rush hours and on all the long cars at all times.

Whenever a street car, whatever its size, becomes so crowded that the conductor cannot collect fares without neglecting the stopping and starting of the car, it is necessary, in order to secure the safety of passengers, on the one hand, and to avoid delays on the other, that some one shall temporarily take his place on the rear platform. It is the opinion of the committee that such person should be a trained employee of the company.

(13) The question of the issuance of transfers at junction points and the proper marking of all cars to show the route and destination of each car.

In regard to issuing transfers the committee is not yet in possession of sufficient accurate information to warrant an expression of opinion. It would not appear to be advantageous to throw additional travel on overcrowded lines, for the mere purpose of extending the transfer privilege. We understand, from the company's representations, that provisions for transfer are already very general, and that additional lines will be included in the transfer system, with the expiration of existing contracts which now stand in the way.

In regard to the proper marking of cars to show both the route and the destination the committee is of the opinion that the color schemes now in use to designate some routes should be harmonized and extended, so that whenever the cars of different routes use the same tracks, each set of cars can be readily recognized and distinguished, the same color arrangement being employed both by night and day. These would be in addition to any other designation which may refer to the destination.

(14) The promotion of proper police regulations of trucking and traffic on the streets through which lines are operated.

The committee regards this as one of the most important and far-reaching of all the propositions submitted. We believe that if carried out to the farthest extent practicable there would ensue a great improvement in the entire condition. A thorough study of the matter of regulation of traffic should be made by the city officials in the light of the present situation.

The following are recommended as applicable to Broadway, south of Fifty-Ninth Street:

1. No empty or idle vehicle of any kind shall remain standing on Broadway.
2. Heavy traffic to keep to the extreme right or curb; light traffic near the tracks.
3. Drivers to use tracks only when balance of the street, to the right, is occupied.
4. A vehicle overtaking another shall pass to the left.
5. When a vehicle discharges passengers or freight and must remain in the neighborhood, it must move to the side street.
6. Vehicles occupying the track for any purpose must leave it at the first opportunity.

(15) The removal of obstructions of all kinds, including snow, from the public portions of streets on which car lines run.

We are of the opinion that the public ordinances covering obstacles in the streets are not adapted to our present congested thoroughfares, and should be revised to meet the existing conditions. In view of the limited time at our disposal we do not wish to consider that we have exhausted this subject in recommending:

First. That the building laws be so amended as to prevent occupation of any portion of Broadway south of Fifty-Ninth Street with building material, and that the sidewalk abutting buildings under construction be roofed over and kept open for passage.

Second. That in the removal of snow important streets on which cars are run should receive first attention.

(16) The question of the enforcement of the public ordinances respecting ventilation and cleanliness.

It is recommended that a strict observance of city ordinances relating to ventilation and cleanliness of cars be required.

1. The most important of these ordinances is that which relates to spitting on the floors of cars. It is desirable, in the judgment of the committee, that the Board of Health cause the arrest and prosecution of those who violate this ordinance, and that the police department and city magistrates co-operate with the Board of Health to this end. This should not be understood as absolving the companies from observing that part of the ordinance which requires that conductors call the attention of offenders to the warning notices of the Board of Health, which are posted in every car. It is recommended that the companies be called upon to issue imperative orders to conductors to observe that part of the ordinances which is binding upon them.

2. A satisfactory ventilation of the cars is impracticable so long as they are overcrowded, but a measure of relief can be secured by the adoption of improved methods of ventilation. It is recommended that a more effective system of ventilation be installed in the cars, and that its control and operation be placed in charge of employees especially assigned to this work at depots, terminals and such other points as may be necessary to secure the best results, in the same manner as heating is now regulated.

3. It is recommended that the use of cocoa, rope or other absorbent mats and permanently placed slats or gratings on the floors of the cars be discontinued. Removable gratings of wood, metal or other material, which can be readily removed and cleaned, should be used.

4. The spaces behind and beneath the seats, which now serve as receptacles for refuse and dust, should, in common with the rest of the car, be thoroughly cleaned every day in accordance with Section 185 of the Sanitary Code. The cleaning of cars is not done in a satisfactory manner. The cars should be cleaned more thoroughly and the work should be carried on in suitable places.

5. It is recommended that the Thirty-Fourth Street cross-town line be equipped with such motive power as will enable these cars to be operated without detriment to the health of the passengers. The use of the present offensive and unhealthful storage batteries should be discontinued.

(17) The prevention of permitting passengers to stand between seats in open cars.

While your committee recognizes that the standing of passengers between the seats of open cars not only occasions great discomfort, but leads to grave injury to health and morals, we are of the opinion that the practice can only be stopped by prohibitory laws, rigidly enforced, and we believe that the enforcement of such laws would be very difficult until such time as the transportation facilities of the city are greatly increased.

We are of the opinion that if the above recommendations are, in substance, adopted, more cars can be run and that they can make better time, thus materially relieving the present congestion.

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ADDITIONAL "JIM CROW" LITIGATION

The fight on the "Jim Crow" car law has been carried into the Supreme Court of Louisiana. President Pearson, of the New Orleans Railways Company, has been arrested on forty affidavits charging the company with violating the law. His defense is that the act of the Legislature is unconstitutional. This position was sustained in the City Court, but the district attorney was not satisfied and appealed to the Supreme Court. A decision is looked for before the expiration of the present term.

It is said that the bill in question was aimed solely at the New Orleans Railroad when introduced by Representative Wilson, but, in order to overcome the objections of a number of members of the Legislature who favored the bill, it was made to apply to all street railway systems throughout the State. Baton Rouge and Shreveport car companies protested vigorously that the bill would ruin them, and they asked that if it could not be defeated it be amended so that companies could provide separate "accommodations" by means of partitions or wire screens. The law has been unsatisfactory to the street car companies and public, but the former has ordered its strict enforcement in New Orleans by conductors, and frequently the white division is packed to discomfort while the seats in the colored division remain unoccupied. Efforts at these times to occupy such seats has brought about several personal encounters and law suits. The amount of negro travel has been greatly lessened, and several church functions of the negroes deferred because of the car situation. This is one of the grounds on which the railway company has attacked the constitutionality of the law. The friends of the law profess to believe that the company is simply trying to make it odious for the purpose of securing its repeal.

One prominent negro, Bishop Charles S. Smith, in the Louisiana Conference, advised the negroes to stay off the cars, saying: "There was no earthly need for a 'Jim Crow' street car law in this State, nor in any other Southern State, but we have it. Stay off the cars and walk."

RULES OF THE ROAD

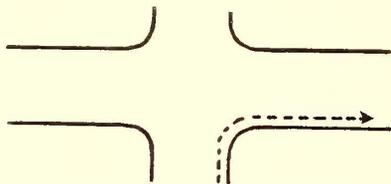
The following are the Rules of the Road suggested by William P. Eno, of New York, for the regulation of vehicle traffic in New York city. They have been submitted to the Merchants' Association, city authorities and Metropolitan Street Railway Company, and will probably be adopted in the steps being taken to relieve congestion in New York:

ARTICLE I. ON KEEPING TO THE RIGHT, STOPPING, TURNING AND PASSING VEHICLES AHEAD GOING IN THE SAME DIRECTION

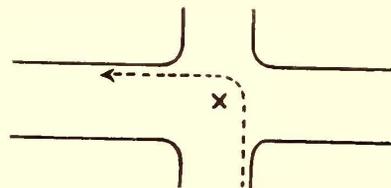
Section 1. Vehicles shall keep to the right, and not only so when passing other vehicles going in the opposite direction, but always to the right, and as near the right-hand curbstones as vehicles at a standstill or going at a slower rate of speed will permit, thus leaving room in the middle of the street for those going in the same direction at a greater speed to pass to the left.

Section 2. A vehicle overtaking another shall pass on the left side of the overtaken vehicle.

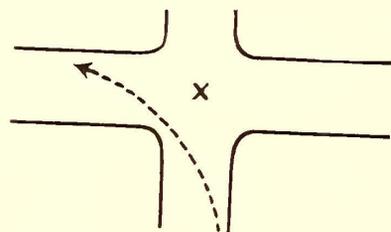
Section 3. A vehicle turning into another street to the right shall turn the corner as near the curb as practicable, and keep on to the right in the street into which it turns. Thus:



Section 4. In turning into another street to the left the vehicle shall turn around the center of intersection of the two streets. Thus:

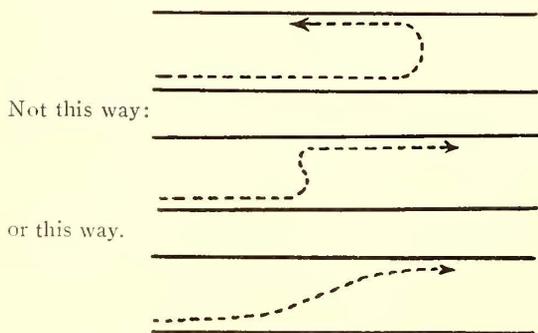


Not this way:



Section 5. A vehicle shall not stop at a left-hand curbstone except on licensed hack and truck stands.

Section 6. A vehicle crossing from one side of the street to the other shall do so. Thus:



ARTICLE II. ON SIGNALS

Section 1. In slowing up or stopping, a signal shall always be given to those behind by raising the whip or hand.

Section 2. In turning, while in motion, or in starting to turn from a standstill, a signal shall be given by raising the whip or hand and twirling it in the direction in which the turn is to be made.

Section 3. Unless in an emergency, or to allow another ve-

hicle, equestrian or pedestrian to cross their path, no vehicle or equestrian shall stop in any public street or highway of this city except near the right-hand curb thereof, and so as not to obstruct a crossing.

ARTICLE III. ON RIGHT OF WAY

Section 1. On all the public streets or highways of the city all vehicles going in a northerly or southerly direction shall have the right of way over any vehicle going in an easterly or westerly direction.

Section 2. The officers and men of the fire department and fire patrol, with their fire apparatus of all kinds, when going to, on duty at, or returning from, a fire, and all ambulances, and the officers and men and vehicles of the police department, and all physicians who have a police permit (as hereinafter provided), shall have the right of way in any street, and through any procession, except over vehicles carrying the United States mail. The head of the police department is hereby empowered to issue, upon application therefor, a permit for such right of way to any duly registered physician, which permit shall not be transferable.

Section 3. Subject to the preceding section of this article, surface cars, running on tracks laid in the streets especially for their use, shall have the right of way along such tracks, between cross streets, over all vehicles moving in the same direction at a less rate of speed than 10 miles an hour; and the driver of any vehicle, proceeding upon the track in front of a surface car, shall turn out immediately upon signal by the motorman or driver of the car.

Section 4. Surface cars shall stop on the near side of the street to discharge or take on passengers.

Section 5. Surface cars shall come to a full stop before crossing certain streets, and a list of these streets shall be obtained by the car companies from the police department, and it shall notify the car companies of any additions to, or changes in, said list.

Section 6. No vehicle shall occupy the street for the purpose of loading or unloading, or for any purpose that will interfere with or interrupt the passage of cars, between the hours of 7 a. m. and 10 a. m. and 4 p. m. and 7 p. m.

ARTICLE IV. ON SPEED

Section 1. Vehicles, whether loaded or unloaded, used for any other purpose than that of carrying passengers, shall not be driven at a greater speed rate than 5 miles an hour.

Section 2. Vehicles drawn by horses, and used for the purpose of carrying passengers and their personal luggage, shall not be driven at a greater speed rate than 8 miles an hour.

Section 3. Bicycles, tricycles and quadricycles, automobiles and street cars operated by power, used only for the purpose of carrying passengers and their personal luggage, shall not proceed at a greater speed rate than 10 miles an hour.

Section 4. Vehicles and horsemen shall not cross any street or avenue running north and south, or make any turn, at a speed rate exceeding 3 miles an hour.

Section 5. Nothing in this article shall apply to the vehicles of the fire, fire patrol and police departments, ambulances, or traffic emergency repair wagons.

ARTICLE V. STOP AUTOMOBILE ON SIGNAL

Every person driving an automobile or motor vehicle shall, at request or signal by putting up the hand, from a person driving or riding a restive horse or horses, or driving domestic animals, cause the automobile to stop immediately, and to remain stationary so long as may be necessary to allow said horses or domestic animals to pass. This provision shall apply to automobiles going either in the same or in an opposite direction.

ARTICLE VI. HORSES STANDING

Section 1. No horse shall be left unattended in any street unless he is securely fastened to a substantial and permanent hitching post or ring by a strap or rope passing around his neck and through the bit.

Section 2. No horse shall be unbitted in any street unless he is first secured by a halter.

ARTICLE VII. DEFINITIONS

Section 1. For the purpose of this ordinance, all avenues and streets with a parkway in the middle shall be considered as having but one roadway.

Section 2. The word vehicle, wherever used in these ordinances, shall be held to include everything on wheels or runners, and equestrians.

ARTICLE VIII. LICENSES.

Section 1. The driver of every numbered vehicle is required to hold a numbered card issued by the police department, certifying that he has applied for it, and demonstrated that he thoroughly understands the rules of the road, and can drive safely.

Section 2. No driver of a numbered vehicle shall be less than 16 years of age.

ARTICLE IX. SIDEWALKS

Section 1. No person shall drive, or back, or lead any horse or cart, or other wheeled carriage (except baby carriages) on the foot path or sidewalk of any street; nor shall it be lawful for any vehicle propelled by hand or foot, or any other power, to be ridden or driven upon the sidewalk of any street or avenue which has been flagged, curbed, guttered and paved.

Section 2. Bicyclists may lead their wheels along the sidewalk in single file, and bicycles may be stood on sidewalks, provided they cause no obstruction.

Section 3. Nothing contained in this article shall prevent the passage of vehicles from private property directly across the sidewalks to the roadway.

ARTICLE X. BELLS

All rubber-tired vehicles shall carry bells; those drawn by horses a jingle bell properly attached to horse collar or pole crab; all others gong bells not less than 1½ ins. nor more than 3 ins. in diameter; and such bell or gong shall be sounded when turning corners, when passing another vehicle or an equestrian from behind, and to give timely warning when necessary. Automobiles may be provided with suitable horns, or other signals, instead of bells.

ARTICLE XI. LIGHTS

Each and every vehicle using the public streets or highways of this city shall show, between sunset and sunrise, a light or lights, so placed as to be seen from the front and each side; if dash lantern is carried, it shall be placed on the left-hand side; such light or lights to be of sufficient illuminating power to be visible at a distance of 200 ft.; said light or lights shall show white in front, but may be colored on the sides. Every automobile shall exhibit during the same period two lamps showing white lights visible at a distance of 300 ft. in the direction toward which the automobile is proceeding, and shall also exhibit a red light, visible in the reverse direction. The lamps shall be so placed as to be free from obstruction to light from other parts of said automobile.

ARTICLE XII. BRAKES

Every automobile shall be provided with a good and efficient brake.

ARTICLE XIII. BICYCLES

Section 1. Bicyclists shall not coast on any of the streets or avenues of this city south of 125th Street. The term coasting is hereby defined to mean proceeding by inertia or momentum, with the feet off the pedals; but the rider may use his feet as a brake, and have them off the pedals while used for this purpose.

Section 2. No bicyclist in the city of New York shall carry thereon any child under the age of 5 years.

ARTICLE XIV.

No person shall ride on the back of any vehicle without first obtaining the consent of the driver thereof.

ARTICLE XV.

The establishment and maintenance of cab, hack and truck stands shall be under the control of the police department.

ARTICLE XVI.

The police of the city of New York are hereby empowered and directed to enforce these ordinances.

ARTICLE XVII.

Copies of these ordinances shall be kept at all police stations and issued on application.

ARTICLE XVIII.

These ordinances shall take effect immediately, and any person violating any of them shall be liable to a fine of not less than \$1 nor more than \$50 for each offense, and any violator who shall give a wrong number, name or address, shall be liable to a fine of \$100.

ARTICLE XIX.

Any ordinance heretofore made which in any way conflicts with any of the foregoing is hereby repealed.

SUPPLEMENTARY ORDINANCES PROPOSED BY THE RAILWAY COMPANY

The following ordinances especially covering the blocking of car traffic by trucks, have been drawn up by Oren Root, Jr., assistant general manager of the Interurban Street Railway Company, and have been submitted to the city authorities. In Mr. Root's opinion the proposed ordinances will greatly assist in the movement of cars in New York city:

Section 1. No vehicle of any character shall be allowed to stand on any street upon which electric cars are operated except while actually engaged in discharging or taking on passengers or while actually engaged in loading or unloading. All load-

ing and unloading on streets over which electric cars are operated shall be done with the vehicles and horses standing alongside the curb parallel with the street. Where premises facing on a street where electric cars are operated shall have another entrance on a street where no electric cars are operated, such unloading or loading shall not be done on the street where electric cars are operated.

Section 2. No vehicle shall occupy the street for the purpose of loading or unloading or for any purpose in a position that will interfere with or interrupt the passage of cars at any time between the hours of 7 a. m. to 10 a. m. and 4 p. m. to 7 p. m.

Section 3. No vehicle, the speed of which is regulated by the ordinances of the city of New York to a slower rate than is prescribed for the electric cars, shall be driven on car tracks over which electric cars are operated, except while passing other standing or slower moving vehicles.

Section 4. The driver of any vehicle proceeding upon the track in front of an electric car shall turn out immediately when signalled by the motorman of the car.

Section 5. No vehicle shall be driven upon a track used for cars going in an opposite parallel direction except for the purpose of crossing such track.

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ENGINEERING AND OPERATING FEATURES OF THE CHICAGO TRANSPORTATION PROBLEM— IV AND CONCLUSION

The abstract of the report of B. J. Arnold to the local transportation committee of the Chicago City Council is continued from the last issue and concluded.

The valuation estimates, which constitute Chapter VII of Part VI, are made, as before stated, under two heads, "A" and "B." In Column A is given the estimated cost to reproduce the physical part of the present property at present market prices for labor, material and equipment. In Column B is given the present value of the physical property for electric railway purposes to any person or corporation in a position to utilize it in place, and sell for cash those parts which have become obsolete. This does not take into consideration the value of the franchises or the earning capacity of the property.

VALUATION ESTIMATES, CHICAGO CITY RAILWAY COMPANY

The tracks, paving and trolley construction are estimated in Column A as worth \$8,789,042.63, and in Column B as \$5,797,326.58.

The three cable stations and two electric stations are valued in Column A at \$1,945,450, and in Column B at \$1,072,442. The cost to reproduce the steam plant in the cable stations is taken at \$80.60 per boiler horse-power, or \$40 per engine horse-power. The engine horse-power of these plants is 10,818, and the boiler horse-power 5400 at rated capacity. The buildings, stacks and foundations were estimated at \$18 per engine horse-power. The two electric stations, with a total capacity of 10,280 kw, were figured at \$90 per kilowatt, including boilers, engines, generators, piping, pumps, and, in fact, everything about the stations except land. These are simple non-condensing engines, with rope-driven generators, supplied from return tubular boilers with mechanical stokers. A storage battery plant of 1000 hp is figured at \$70.86 per horse-power.

Rolling stock, not including motors and grips, is valued at \$2,543,037.21 in Column A, and in Column B at \$1,126,927.21.

Motors, controllers and grips are valued at \$1,053,945 in Column A, and \$916,885 in Column B.

Tools, implements, machinery and supplies in Column A are estimated at \$75,165, and in Column B at \$75,452.90.

The real estate valuations are taken from the Board of Review figures for 1902, less the value of buildings included in the

foregoing estimates. This gives values under Column A as \$1,863,354, and in Column B the same.

Adding the values of some recent expenditures the total cost to reproduce the Chicago City Railway property to-day, as given in Column A, is estimated at \$17,172,424.84, and in Column B as \$11,747,818.69—the latter being the present value to any company in a position to utilize it in place for electric railway purposes.

The depreciation or loss in value of the cable part of the Chicago City Railway property is \$3,613,458.21. This is the difference between its estimated value for use and its cost to produce to-day. The depreciation of the electrical part of this property, figured on the same basis, is \$1,811,147.94, making the total depreciation \$5,424,606.15.*

VALUATION ESTIMATES, CHICAGO UNION TRACTION COMPANY

The tracks, paving and trolley construction of the Chicago Union Traction Company are valued in Column A at \$11,294,882.05, and in Column B at \$7,382,217.64.

The eight cable stations are valued at \$2,007,000 in Column A, and \$467,550 in Column B. These eight stations have a total capacity of 15,550-engine horse-power, and 8100-boiler horse-power. They are scheduled at \$40 per engine horse-power, or \$76.75 per boiler horse-power.

The two electric power stations are valued in Column A at \$3,239,117.01, and in Column B at \$1,576,455.32. One of these stations is of 3900-kw capacity, containing compound, horizontal condensing direct-connected units and return tubular boilers. It is valued in Column A at \$120 per kilowatt, including everything but land. The other station is of 8250-kw capacity, containing compound, horizontal, non-condensing direct-connected units and water-tube boilers. It is valued at \$92.35 per kilowatt in Column A.

Cars and trucks are estimated at \$2,840,400 in Column A, and \$1,273,780 in Column B.

The electric car equipment is placed at \$456,600 in Column A, and \$410,940 in Column B.

Tools, implements, supplies and machinery, not previously included, are valued at \$899,404.96 in Column A, and \$809,464.47 in Column B.

Real estate and such buildings as were not included in previous estimates were valued at the 1902 Board of Review figures, or \$3,484,231.

The total values from Column A are \$22,214,635.02, and from Column B \$14,937,088.43.

These figures do not include the Van Buren Street tunnel, owned by the West Chicago Street Railroad Tunnel Company. This would cost \$800,000 to reproduce. Its value is largely dependent on its use in connection with a subway system.

The next chapter is devoted to valuations of lines under expiring grants and is consequently of only local interest.

COST ESTIMATES FOR NEW SYSTEM

Part VI, Chapter IX, is devoted to cost estimates for the production of a new street railway system.†

COST ESTIMATES

COST ESTIMATE NO. 1

Estimate of cost to produce the property necessary for the operation of a system of surface and subway transportation as outlined in Part V of this report, but not including cost of subways:

* Of course these figures on depreciation are far below the actual depreciation from the original cost of the property, because, as explained earlier in the report, the cost to reproduce the cable systems to-day is much less than it was in the early days, when these systems were built.—[EDITORS.]

† Cost Estimate No. 1 is on a surface street railway system all new, leaving out of account the value of present company property. Although not so stated in the report the cost to bring the present systems into the shape outlined for the new system, would naturally be obtained by subtracting the figures given under column B in the preceding paragraphs from the cost of the new system as given in the estimates.—[EDITORS.]

TRACKS, PAVING AND ELECTRIC TRANSMISSION	
745.81 miles of single track located on streets as given in Appendix J, consisting of:	
354.84 miles of single track paved with dressed granite per Unit Price Estimate I, at \$42,365.01	\$15,032,800.15
354.84 miles of single track paved with vitrified brick, per Unit Price Estimate I, at \$36,615.01....	12,992,470.15
15.06 miles of single track in subways not paved as per Unit Price Estimate I, at \$23,965.01....	360,913.05
21.07 miles of single track, underground conduit type, paved with asphalt, as per Unit Price Estimate J, at \$94,181.52.....	1,984,404.62
745.81 miles of single track.....	\$30,370,587.97
Overhead trolley electrical construction on 724.74 miles of single track, at \$8,100.03 per mile of double track, including feeder wire, per Unit Price Estimate G.....	2,935,207.87

POWER PRODUCTION		\$33,305,795.84
Power plant and sub-stations, including buildings and machinery for the operation of 20 0 cars at 50 kw per car:		
Power house, 100,000 kw, at \$110; sub-stations, 200,000 kw, with batteries, \$50; without batteries, \$30; average, \$40.....		\$19,000,000.00
ROLLING STOCK AND OTHER EQUIPMENT		
2000 double-track cars equipped at \$6,000 per car....	12,000,000.00	
Other rolling stock, snow-plows and sweepers, 250 units, at \$4,000.00.....	1,000,000.00	
Other equipment, wagons, tools, etc.....	169,204.16	
REAL ESTATE		
Power house site, centrally located.....	750,000.00	
Sub-station sites, fifteen, at \$5,000.00.....	75,000.00	
Car shop site.....	100,000.00	
Car house sites, twenty, at \$20,000.00.....	400,000.00	
For centrally located offices.....	300,000.00	
BUILDINGS OTHER THAN POWER HOUSE AND SUB-STATIONS		
Car shops and machinery.....	300,000.00	
Car houses, twenty, at \$100,000.00.....	2,000,000.00	
Office building, furniture and fixtures.....	400,000.00	
		\$69,800,000.00

COST ESTIMATE NO. 2

Estimate cost to produce proposed subway system No. 1, as shown on Map II, sectional views of which are shown by Plates I to 8 inclusive, and as described in Part VI of this report:

DOUBLE-TRACK SUBWAY IN OPEN CUTTING	
Distances—In 80-ft. streets, 17,120 lineal feet.	
“ 80-ft. “ 2,125 “ “ stations.	
“ 66-ft. “ 1,280 “ “	

Total double-track open cut. . 20,525 “ “

SINGLE-TRACK SUBWAY IN OPEN CUTTING	
	Lineal Feet
Subway proper.....	13,980
Stations, single track.....	1,375
Special stations, single track.....	625

Total single-track open cut..... 15,980

TUNNEL APPROACHES TO RIVER TUNNELS	
Single Track—	
Van Buren Street tunnel.....	1,100
Washington Street tunnel.....	1,150

Total single track approach..... 2,250

Double Track—

Van Buren Street tunnel..... 300

Total double-track approach..... 300

NEW TUNNELS	
Double-track tunnel proper.....	1,950 ft., Clark Street.
Double-track tunnel proper.....	1,360 ft., Dearborn Street.

Total double-track tunnel..... 3,310 ft.,
Single-track tunnel approach..... 400 ft., Clark Street.
Single-track tunnel approach..... 1,350 ft., Dearborn Street.

Total single-track tunnel..... 1,750 ft.
Double-track open approach..... 600 ft. in Clark St., N. S.
Double-track open approach..... 600 ft. in Dearborn St., N. S.

Total double-track tunnel approach. 1,200 ft.

EXISTING TUNNELS AFTER CHANGES HAVE BEEN MADE TO ADAPT THEM TO THE PROPOSED SUBWAY SYSTEM

	Feet
Van Buren Street.....	1,100
Washington Street.....	1,085
La Salle Street.....	2,250
Total	4,435

SUMMARY

Double-track subway, open cut.....	20,525
Single-track subway, open cut.....	15,980
Single-track tunnel approaches to present river tunnels....	2,250
Double track tunnel approaches to present river tunnels....	300

NEW TUNNELS UNDER RIVER

Clark and Dearborn Streets tunnel proper.....	3,310
Single-track tunnel approach.....	1,750
Double-track open approach.....	1,200
Remodeled existing tunnels.....	4,435

Total lineal feet of subway and tunnels..... 49,750

This total is equal to 9.42 miles of subways and tunnels, of which 5.64 miles is double-track structure and 3.78 miles is single track, providing for 15.06 miles of single-track railway.

ESTIMATED COST OF SUBWAYS AND TUNNELS
PLAN NO. 1

Excavation	\$ 1,900,000.00
Timbering	1,200,000.00
Concrete	3,720,000.00
Waterproofing	226,000.00
Structural steel.....	772,380.00
Rearranging water and gas pipes.....	615,000.00
Rearranging sewers.....	200,000.00
New trunk line sewer, low level.....	100,000.00
Rearranging pneumatic and electrical underground work	450,000.00
Sidewalks, paving, grating, manhole covers, etc....	500,000.00
Stations	550,000.00
Temporary maintenance of traffic, care of abutting buildings, etc.....	1,200,000.00

\$11,433,380.00

Plus for engineering, supervision and administration. 1,143,338.00

Total for subways..... \$12,576,718.00

Two new tunnels at Clark and Dearborn Streets.... 1,600,000.00

Lowering existing tunnels..... 1,500,000.00

Total

Say

COST ESTIMATE NO. 3

Estimated cost to produce subway system No. 2, as shown on Map No. 5, sectional views of which are shown by Plates 1 to 9 inclusive, as described in Part VI, pages 148 to 153 of this report:

High Level—

	Lineal Feet
Double-tracked subway, open cut.....	20,525
Single track, open cut.....	15,980
Single-track tunnel approaches to present river tunnels..	2,250
Double-track tunnel approaches to present river tunnels.	300
Low Level—	
Double-track tunnel.....	6,800
Single-track tunnel.....	12,400
New tunnels under river, Clark, Dearborn and Adams Streets	4,965
Single-track tunnel approach.....	1,750
Double-track, open approach.....	1,200
Remodeling existing tunnels.....	4,435

70,605

Estimated cost of high and low-level subway system, Plan No. 2:

Excavation	\$ 2,533,333
Timbering	1,600,000
Concrete	4,960,000
Waterproofing	301,333
Structural steel.....	1,029,840

* These figures do not include damages that might be shown to property abutting subway approaches, but as the figures are liberal they might possibly cover any such damages. The amount of these damages is a question for real estate experts, and can only be determined after exact locations for subway approaches are fixed.

Rearranging water and gas pipes.....	615,000
Rearranging sewers.....	200,000
New trunk line sewer.....	100,000
Rearranging pneumatic and electrical underground work	450,000
Sidewalks, paving, gratings, manhole covers, etc.....	500,000
Stations	733,333
Temporary maintenance of traffic, care of abutting buildings, etc.....	1,333,333

\$14,356,172

Plus for engineering, supervision and administration.. 1,435,617

Total for subways..... \$15,791,789

Three new tunnels at Clark, Dearborn, Adams Streets. 2,400,000

Lowering existing tunnels..... 1,500,000

Total

Say

APPENDICES

The contents of the appendices were briefly stated in the first part of the abstract of this report. They contain mainly more exact and detailed data about present and proposed systems than is contained in the body of the report.

NEW ENGLAND STREET RAILWAY CLUB MEETING

The third annual meeting and banquet of the New England Street Railway Club was held in Boston, at Hotel Somerset, corner of Commonwealth Avenue and Charlesgate East, on Thursday evening Jan. 22. The occasion was one of the most enjoyable in the history of the club, and was attended by upwards of 400 members and invited guests. A reception was held in the east wing of the hotel at 6 p. m., and about 7:30 o'clock the company gathered in the superb new banquet room, and, accompanied by music rendered by an orchestra stationed in a balcony, sat down for the banquet at small round tables seating five each. At the east end of the room were the officials and invited guests at a long table specially set apart for their use. Here were seated the presiding officer, President H. E. Farrington, of Chelsea; Toastmaster Frank Ridlon, of Boston; General William A. Bancroft, president; Charles S. Sergeant, vice-president, and H. L. Wilson, auditor Boston Elevated Railway Company; H. B. Rogers, second vice-president Massachusetts Electric Companies; H. C. Page, general superintendent Boston & Northern Street Railway; Robert S. Goff, general superintendent Old Colony Street Railway; Hon. E. P. Shaw, president of the Newburyport Car Company, and financial supporter of numerous electric railway enterprises in New England; William R. Wood, president, and E. A. Newman, manager Portland Railroad Company; H. M. Putney, chairman New Hampshire Railroad Commission; Henry H. Crapo, president Union Street Railway Company, New Bedford; Henry S. Bingham, Vermont Railroad Commissioner; Fuller C. Smith, Chairman Vermont Railroad Commission; Colonel Frank Richardson, Hoosac Valley Street Railway; G. W. Nock, Bridgeport; Hon. Parker Spofford, Bucksport; Hon. Benjamin F. Chadburn, Railroad Commissioner of Maine.

After the dinner had been thoroughly discussed the annual election of officers was held, with the following results:

President, H. E. Farrington, master mechanic Boston & Northern, Chelsea; first vice-president, E. E. Potter, general manager Union Street Railway Company, New Bedford; vice-presidents for States, Maine, W. G. Meloon, general manager Portsmouth, Kittery Point & York Street Railway Company, Kittery; New Hampshire, H. A. Albin, superintendent Concord Street Railway Company, and Concord & Manchester Street Railway Company, Concord; Vermont, A. J. Crosby, superintendent Springfield Street Railway Company; Rhode Island, H. W. Young, manager Woonsocket Street Railway

* See note at foot of first column, this page.

Company; Connecticut, J. S. Thornton, superintendent People's Tramway Company, Putnam; secretary and treasurer, J. H. Neal, chief of department of accounts Boston Elevated Railway Company; executive committee, H. E. Farrington, Chelsea; O. L. Prendergast, Boston; A. J. Purinton, Palmer; H. E. Reynolds, Quincy; Frank J. Stone, manager Electric Storage Battery Company; Franklin Huntress, John C. Spring, Boston; finance committee, J. F. Wattles, Paul Winsor and P. W. Davis, Boston.

Letters of regret were read from Governor Bates, of Massachusetts; former President E. C. Spring and others. Before introducing the toastmaster President Farrington, in a few convincing remarks, urged the necessity of every street railway in New England being represented in the club's membership list. Toastmaster Frank Ridlon, of Boston, was then introduced, who called upon the various speakers in his usual happy vein.

Hon. E. P. Shaw spoke for the Commonwealth of Massachusetts, and called to mind many incidents illustrating his interest in street railways in the early days of the trolley car. He paid a high tribute to Harry M. Whitney, of Boston, for his enthusiasm and business foresight, which made electric railroading a commercial success in that city.

Hon. Benjamin F. Chadbourne, Railroad Commissioner of Maine, then made an able and witty speech on the importance of the street railway and the Commission's relations to its promoters and managers. He emphasized the fact that the aim of his Commission is to meet every street railway man as fairly as possible, and congratulated the club on the success of its organization, which involves so many men upon whose shoulders large public trusts are placed and carried.

Railroad Commissioner Fuller C. Smith, of Vermont, was next called upon, and made a most facetious speech, in which many good-natured allusions were made to the Boston contingent of the club. He closed by inviting the attention of capitalists to the water-power and electric railway opportunities of the beautiful "Green Mountain State," and instanced the recent plans of a syndicate for a 3000-hp transmission of some 20 miles between Burlington and Vergennes.

H. M. Putney, of the New Hampshire Railroad Commission, followed with another witty speech at the expense of what he called philanthropic Massachusetts capitalists who are building lines in his State. He closed by urging the fairness of the proposition that an electric railway company which has spent much time and money in building up a good business in its territory, laying out parks, creating traffic and offering good service should have its franchises protected, and that no other company should be allowed to come in and reap the benefits of the first company's expense and effort as long as the service rendered was satisfactory.

John Graham, of Bangor, Maine, then brought before the members some of his experiences in traveling in Europe last summer, calling special attention to the ordinances regulating the number of passengers a street car could carry and illustrating the prevailing class distinctions. He spoke of the fine condition of the Italian roads, and of the abundant water-power in Switzerland. He states that in Europe one can ride one-half mile for 2 cents, while in Boston, for instance, one can ride an hour and three-quarters for 5 cents, the steam road fare for that time being \$1.75. He closed by paying a high tribute to the operation of the Boston Elevated.

Major H. C. Evans, of New York, and J. R. Panderford also made brief remarks before the meeting adjourned at 10:30 p. m.

The enthusiasm of the members at the informal reception held during the hour preceding the dinner was one of the most satisfactory features of the evening. The officers of the club are to be congratulated not only for what they have already accomplished but upon their plans for the future.

ELECTRIC RAILWAY PROJECTS IN NEW JERSEY

Several companies have filed maps covering practically all the available routes at Trenton, but the People's Traction Company, a comparatively new concern, headed by I. A. Sweigard, former superintendent of the Philadelphia & Reading Railway, has made a request not only for the streets of the city but for most of the alleys as well, and has filed with the Secretary of State a map covering everything available in the city. The total length of the proposed lines is between 6 miles and 7 miles, and they cover a territory extending from Cadwalader Park on the west, to the Interstate Fair Grounds on the east.

Little is known of the People's Traction Company in Trenton, and the filing of the maps came as a complete surprise. For some reason or other the promoters of the new lines have chosen the poorest routes in many instances, owing to the large number of curves which would be necessary in turning from one street into another. The most practical line would be the one from Front Street to North Willow Street, to Spring Street, to Prospect Street, to Stuyvesant Avenue, to Hillcrest Avenue and Parkway Avenue, as that would afford a new and almost direct line to Cadwalader Park. No other line would come nearer than two blocks of the City Hall. No announcement has been made, locally, as to what will be done, or rather what the City Council will be asked to let the company do. The route on North Willow Street covers one for which a franchise has already been granted to the New Jersey & Pennsylvania Traction Company for an extension of the Trenton, Lawrenceville & Princeton Railroad, but in no other instance does the proposed line conflict with any existing road.

The People's Traction Company was incorporated in this State on July 12, 1902, and the same day that the required \$25,000 was deposited with the State Treasurer a map was filed covering a route from Burlington to Mount Holly. On July 18, six days later, a map was filed covering a route between Absecon and Atlantic City, over the old turnpike, which the company is said to have purchased, and also over a new road, yet to be laid out and constructed. The company also filed maps covering seven distinct routes in Atlantic City on July 23, and on Aug. 1 another route from Pleasantville to Atlantic City, and also south to Somers Point. Other maps, filed on later dates, covered routes from Mount Holly to Pemberton, Mount Holly to Smithville, and from Burlington to Mount Holly.

It is understood that the People's Traction Company was formed for the purpose of taking over the operation of all the Sweigard properties and routes. The company is said to own the Mount Holly Street Railway, the Burlington County Traction Company (which is building a line from Moorestown to Mount Holly), the Atlantic City Street Railway Company, the Atlantic City & Chelsea Passenger Railway Company, the Chelsea & Suburban Traction Company, and the Atlantic City & Suburban Traction Company.

The People's Traction Company has an authorized capital of \$175,000, but this can be raised by paying an additional fee to the State. I. A. Sweigard is the president, W. C. Parry, secretary and treasurer. Josiah K. Bougher, of Philadelphia, is also interested in the company.

The Camden & Trenton Railway Company was the first outside corporation to file maps for streets in this city, and an entire local system was planned. The New Jersey & Pennsylvania Traction Company next secured a charter and filed maps covering an elaborate local system. The Trenton & New Brunswick Railroad Company is at the city line, the Philadelphia, Bristol & Trenton Street Railway is just across the river, and the Delaware Valley Traction has covered the suburban exits, so that it may be safely said that Trenton is in a fair way to be well supplied with electric railways.

A PECULIAR ACCIDENT IN MASSACHUSETTS

One of the most remarkable accidents which has been chronicled in these pages for some time occurred near Lee, Mass., last week. About 11 o'clock at night, on Monday, Jan. 19, one of the large double-truck cars of the Berkshire Street Railway Company was returning empty from Stockbridge to

to high-speed interurban cars might have prevented the accident from taking a more serious form. Probably no better illustration has ever been given than this of the advantages of operating heavily-built cars in high-speed service, and while the accident seems to be entirely uncalled for from an operating standpoint, it has demonstrated in a very fortunate manner the high degree of safety which the interurban car itself provides the rider on the modern electric railway. The conductor was pitched from the car to the ice below; and though badly bruised was not seriously injured; while the motorman escaped with being merely thrown to the floor of his vestibule.



TROLLEY ACCIDENT AT LEE, MASS.

Pittsfield at a high rate of speed. In crossing the bridge over the Housatonic River the rear truck of the car jumped the track and cleared the guard rail, throwing the rear end of the car through the side truss of the bridge. The truck left the rails just before reaching the span, the front truck being well onto the bridge, and the car struck the end of the bridge truss with such force that the bridge was completely wrecked, as seen in the two accompanying engravings, which were made from photographs taken on the morning after the accident. They show the appearance of the ear and bridge from both ends.

The Berkshire Street Railway Company, which was opened last summer, operates largely over its own right of way and maintains an exceedingly high-speed schedule. The car was running at the ordinary cross-country speed as it approached the bridge. The bridge, which is 100 ft. in length, is situated just beyond a curve, and it is the custom to slacken speed greatly as the bridge is approached, so as to take this curve with safety. This the motorman failed to do. Had the front truck instead of the rear truck left the rails he would undoubtedly have been killed, and had the rear truck held the rails an instant longer it is probable that the conductor would have been severely injured if not killed outright. As it was, however, the car struck broadside, smashing a large hole in the roof and splintering the plate glass windows, but the strong side framing of the car prevented the breaking up of the body to any great extent. Had the car been filled with passengers the accident would undoubtedly have resulted in many serious bruises, injuries from flying glass, etc., but the great strength which is now being given

The accident did not stop the through service of the company, fortunately, as there is a large, covered highway bridge across the river paralleling the railroad bridge, by means of which transfers could be made, and cars were operated to both sides of the wreck. The company was building a bridge across the river at Lenox Dale, and all the material was on the ground awaiting erection. The dimensions of this bridge were so nearly like those of the one injured that it was immediately decided to remove the damaged structure and replace it by a new one built from the steel at Lenox Dale, allowing the latter to wait for new material. The rear truck of the car was considerably damaged, although it was found that the motors were but little injured by the accident. It was at first thought possible to

hoist the ear body back to the tracks, but this was found to be impracticable, and after removing all the loose fixtures, etc., it was burned.

The accident directs attention to the necessity of enforcing



TROLLEY CAR PLUNGES FROM TRESTLE

rules for the prevention of reckless operation of cars on the last trip, or when returning to car houses for the night. Great financial loss, such as was sustained in this case, may thus be averted. This is especially true on interurban lines where sharp curves make this practice particularly dangerous.

CHICAGO DEVELOPMENTS

As mentioned in these columns last week, there is a great activity in Chicago at the present time in regard to franchise extensions. At the meeting of the local committee of the Chicago City Council, which was briefly mentioned last week, Attorney E. R. Bliss, representing the Chicago City Railway Company, assured the committee that his company was ready and anxious to go ahead with franchise negotiations. The Chicago Union Traction Company wanted more time.

The situation can probably best be explained by an abstract of some of the statements made by the attorneys for the Chicago companies at the conference mentioned.

W. W. Gurley being called on as the representative of the Chicago Union Traction Company, read the following statement:

At the last meeting of your sub-committee an adjournment was taken for the purpose of affording time to the Chicago Union Traction Company and its constituent interests to determine whether they could be prepared at the adjourned day to submit a plan looking to an adjustment of the franchise question under discussion between them and the city.

As the members of your committee have doubtless learned from the daily newspapers, a protective committee has been formed and has called for the deposit of the shares of capital stock of the Chicago Union Traction Company and of its constituent companies, the North Chicago Street Railroad Company and the West Chicago Street Railroad Company, represented by me, preliminary to the preparation and promulgation of a plan for a readjustment of the contract relations between these railroad interests and the municipality.

These corporations consequently have determined, considering the high character of the committee and the announced plan of procedure, that it is to the best interests of the city and of the stockholders that they should, for the time being, postpone any attempt to solve this question by their own efforts. To that end, therefore, they have, by appropriate corporate action, agreed not only that further negotiations shall be conducted by the committee, but also that they will accept any arrangement proposed by such committee which shall be assented to by a majority of the stockholders.

We think that the intervention of this committee, which will represent the corporate interests intrusted to its care, is likely to be a helpful and successful agency for the solution of existing embarrassments, and that the delay consequent upon the promulgation of such plan will be more than compensated for by the prompt and wise settlement of the whole question.

I am authorized to say to you by the representatives of this committee that as soon as the requisite deposits shall have been made with it its intention is to proceed with its work with all the speed possible, having due regard to the deliberation and investigation required by the vast importance of the questions involved. The high character of the men comprising the committee, who have consented to take from the exactions of their business engagements sufficient time to this end, should be a sufficient guaranty to us all that an important step in the right direction has been taken. In fact, it is my view that the attitude of the committee, as expressed in its call for deposits, must, to all who have read the communication, be a better and more forcible argument for the delay suggested than any words of mine.

Mr. Bliss then spoke for the Chicago City Railway Company, saying:

As I understand it, a number of gentlemen eminently successful in their own lines of business who have agreed to take in hand the matter of the Union Traction Company, and some of whom at least are vitally interested in the future welfare of Chicago, have requested you to postpone this matter. There are two reasons why, perhaps, I am not justified in antagonizing that to-day. One is that we all recognize that it would be much better for this committee in treating with this question to have the whole subject matter before it at the same time; the other is simply that of common courtesy, and therefore I shall abide by the action of the committee.

But I want to say, gentlemen, that I think an indefinite delay would be harmful; this matter has agitated this community now for a number of years; the public mind has been more or less occupied with the consideration of this question in its various phases, and I think that now it has become settled that they know very nearly what they think they want and what they ought to have, and there seems to be a demand such as had not existed heretofore for the settlement of this question.

I have no doubt it is true, as it is urged, that all those engaged in the real estate business would be protected and that renting of property would be much facilitated if the service which the public should have, and which now it is admitted upon all hands is not what it should be, were improved, and we think that the public is entitled to this better service, and that the time is about at hand when steps should be taken in that direction.

I want it clearly and emphatically understood here to-day that, so far as the interests which I represent are concerned, they are ready to take up this matter and attempt to adjust it with you, the representatives of the citizens of Chicago.

That is our position. And with that, Mr. Chairman and gentlemen, I simply leave the matter of delay in your hands.

The financial condition of the Chicago companies was reviewed briefly in last week's issue. The Chicago City Railway Company is in excellent condition to go ahead immediately with the work of making the improvements which will necessarily have to be made under the conditions of many franchise extensions that will be granted.

The affairs of the Chicago Union Traction Company are more involved, on account of the heavy liabilities assumed by that company. As these liabilities, added to the amount which must be expended in reconstruction, would be more than any company could carry for the next few years, some plan of reorganization and scaling down must be carried out. As stated by Mr. Gurley, and as announced last week in these columns, a protective committee has been formed to carry out a plan of reorganization and deal with the city.

This protective committee numbers among its members New York stockholders, including representatives of J. P. Morgan & Co., and some of the best-known business men of Chicago. These Chicago men have the confidence of the Chicago public in a large degree, and also have the confidence of their fellow stockholders in the Chicago Union Traction Company. Some of them are but small holders of stock in that company, but are chosen because of their standing as Chicago citizens and business men.

It is expected that this protective committee will deal with the city in a way satisfactory both to stockholders and public. That there must be some sort of a scaling down of stocks seems to be inevitable, and it is well that a committee of this calibre has the matter in charge.

The next meeting of the local transportation committee of the Chicago City Council will be on Feb. 4, at which time the franchise renewals of the Chicago City Railway Company will probably be taken up. There seems to be a general sentiment that this company, having been ready for so long to take up and settle the question, should not be obliged to wait for the reorganization plans of the Chicago Union Traction Company to develop, as these will necessarily take some time.

MAYOR HARRISON'S TRACTION PLANS REJECTED BY CITY COUNCIL

Mayor Harrison submitted several propositions on the Chicago traction problem at the City Council meeting, Jan. 26, all of which were rejected. He attempted to revive an old scheme by proposing a bill for the Legislature providing that franchise ordinances of great importance should not, after adoption by the Council, become laws until approved by the voters. The Aldermen refused to suspend the rules to approve the measure and sent it to a committee. The Mayor also suggested several amendments to the Jackson Municipal Ownership bill, which was indorsed at the previous meeting of the Council, and asked that the vote be reconsidered for their adoption. The Aldermen refused the Mayor's request and the amendments were laid on the table.

In the first case the Mayor was defeated by a vote of 41 to 24, in the second by a vote of 42 to 24.

The Mayor declared that he would refuse to join forces with the protection committee if a long-term franchise were asked for.

RELATION OF INTERURBAN ELECTRIC RAILWAYS TO STEAM ROADS

BY B. F. WYLY, JR.

In the general evolution of transportation methods in this country, it is instructive to observe the rapid progress which has been made by the interurban electric railways in the development of appliances for the comfort, convenience and speed of public transportation.

Refer to a period not very long ago when the first electric lines were constructed, and compare the facilities then afforded with the improved service which is now performed by the best of our interurban electric lines.

Rails of 35 lbs. or 40 lbs. per yard have been replaced by standards of 70 lbs. to 90 lbs; unballasted single tracks on the public highways by gravel or rock ballasted double-track lines on private rights of way; small single cars, seating thirty people, operated irregularly, succeeded by coaches of a capacity of sixty passengers, with electric heat and light, air or magnetic brakes, smoking compartments, lavatories, vestibule fronts and observation platforms, and operated singly or in trains under the multiple unit system of control, with uniformed employees, upon published schedules and train orders properly transmitted; baggage, mail, express and freight service operated separately from passenger, between centrally located terminals, with intermediate stations to serve the country trade; single trip, round trip, mileage and excursion tickets, replacing single-trip cash fares, and with accurate systems of accounts adapted to the requirements of the newly-developed system of rapid and frequent transportation. Such a metamorphosis has taken place within a brief period of a dozen years, compared with the half century of steam railway development, required to perfect the most common of the luxuries now enjoyed in steam travel.

So recent, however, are these later developments that the public has hardly yet realized the fact that the electric railway is not still the light trolley line, with its stubby cars, following the outline of the landscapes, with billowy motion, and reaching in uncertain time an uncertain destination.

In many portions of the country, where a condensed population and heavy traffic have demanded better things, may be seen examples of the new type of modern electric interurban transportation, which have adopted the most effective methods of steam railway service in addition to the peculiar advantages of the smokeless, noiseless and more easily controlled electric power.

These electric railways, moreover, whether of the later or earlier type, have undoubtedly educated the public to travel. With lower fares and more frequent service and the ability to stop at the customer's door, they are distinctly the "people's railway," and have been so adopted. They have thus performed an important part in bringing about the prosperity which is observed on all sides. In accomplishing this it is not too much to say, although not generally admitted, that they have been of material benefit to the steam railways. It is true that with lower cost of operation and lower fares they have taken from the steam railroads most of their suburban traffic, resulting in the withdrawal, in many cases, of suburban service by the steam railways. This, however, has not proven an un-mixed evil. The usual suburban service by steam trains is ill-adapted nowadays to public convenience, and with its frequent stops, wear and tear of equipment and damage claims, is not missed in the final sum of net revenues of the steam railways and its loss or curtailment, carrying with it the long list of commuters' woes, is not unfrequently a source of relief to the railway manager.

On the other hand, the suburban and interurban roads have undoubtedly stimulated travel—they have not only created for themselves, by reason of their frequent service, lower fares and more popular accommodations, a traffic not previously de-

veloped by steam service, but have in addition originated for the steam railways important traffic on which they receive their long haul without the necessity of providing special accommodations, thereby creating the apparent paradox of a demonstrable amount of business lost, with an equally certain, if less demonstrable, amount of revenue gained.

But no such narrow conception of the relation of electric and steam systems of transportation as is involved in the balancing of small losses and gains is in any sense a true exposition of the actual significance of the advent of electric traction into the field of steam transportation. All new inventions, all improved methods, all labor-saving machinery, all discoveries of new forces have added to the world's ability to produce material results, and, therefore, to its wealth and prosperity. Whatever added intensity the use of electricity for transportation may impart to the commerce of the country will be reflected in its prosperity and its consequent capacity to contribute traffic to all transportation systems.

The most farsighted among the railway managers have already recognized this principle, have put off their hostile armor and are no longer active in promoting adverse legislation or impeding, by secret influence, the development of electric traction. Some steam railway systems have already acquired auxiliary electric lines, which they are developing in their own interest; others are seriously considering the substitution of electricity as the motive power for suburban and branch roads in order to realize the increment of profit arising from the new methods of transportation, while they are relying upon the increased activity among business interests, especially among the suburban and rural population, brought about by electric traction, to add materially to the value of their traffic.

It is yet too soon to expect a complete understanding on the part of all railway officers of the true relations of electric and steam transportation, and a similar lack of comprehension undoubtedly exists among the operators of electric lines. Time and the logic of events must be relied upon to work out this problem, as has been the case with others which have preceded it.

In the meantime the managements of the best types of electric roads have before them the work of so affiliating themselves with the steam lines as well as the public, as to produce the largest amount of lasting good to all concerned, a result which, in the opinion of the writer, is the only permanent good to the electric roads and can only be secured by co-operative and friendly interchange of both traffic and ideas.

TELEPHONE DESPATCHING AT BUFFALO

The International Railway Company, of Buffalo, is installing a telephone car-despatching service on all its lines. Communication by telephone is to be established between all switches, railroad crossings, etc. In this way it is expected that delays caused by accidents, shutting off of power, etc., can be avoided and conditions reported at once to the next switch where a car may be waiting or to the next station. The present telegraphic method of despatching cars on the Lockport branch will be done away with, and telephones will take the place of the tickers.

The Montreal Street Railway Company has recently been supplying a certain amount of power to the Montreal Light, Heat & Power Company since the failure of the latter's dam. The power is being supplied through the motor generator sets, the direct-current end being driven as a motor and the induction motor supplying power to the line as a generator. While it has long been known that the induction motor could be used as a generator, and it has been so used experimentally, this is the first instance, so far as is known, of such use having been made in commercial service.

LEGAL DEPARTMENT

CONDUCTED BY WILBUR LARREMORE, OF THE
NEW YORK BAR

Constitutionality of "Jim Crow" Laws

This journal for Nov. 29, 1902, contained an account of criminal proceedings instituted against the officers of the New Orleans Railway Company for violation of the so-called "Jim Crow" law applying to that city, with the result that the trial court sustained a demurrer upon the ground that the statute was unconstitutional. It was also stated that an appeal would be taken so that the question of constitutionality might be determined by the Supreme Court of Louisiana. We have been unable to gain access to the actual text of the statute. As far as the grounds said to have been raised against its validity are concerned, it would seem that one of them at least is clearly inadequate. It was argued that judicial powers are delegated to the officers of street railway companies in that they are authorized to determine and declare the race to which various passengers belong, so as to assign to persons of the respective races their proper places in cars. In our judgment this point is untenable. The second point reported to have been made against the constitutionality of the act is that it is not undertaken to fix maximum and minimum penalties, as required by a section of the Louisiana constitution. The decision upon such point would turn upon the local constitution, and therefore its discussion would not be of general interest.

According to newspaper notices it appears that the street railway company in New Orleans concerned in the prosecution had reserved the rear seats for negro passengers and placed screens in the cars. Practical difficulty seems to have arisen from the fact that passengers would not respect the screens, and that persons of one race insisted, when a car was crowded, on occupying the portion thereof set apart for the other race. The constitutional validity of the Louisiana law may depend upon the character of the provisions made for the separation of white and negro passengers—upon whether the demarkation is fixed and permanent during a continuous journey or changeable in the discretion of the conductor.

In *Louisville, N. O. & T. Ry. Co. vs. Mississippi* (133 U. S., 587), the Supreme Court of the United States held that a statute of the State of Mississippi, requiring railroads carrying passengers in that State to provide equal, but separate, accommodations for the white and colored races, is not violative of the commerce clause of the Constitution of the United States. Such statute did not apply to street railroads, but we cannot see why the principle laid down would not cover a statute governing street railroads as well as any other method of transportation by common carriers. (See also *Chesapeake & Ohio Ry. Co. vs. Kentucky*, 179 U. S., 388.) In *Plessy vs. Ferguson* (163 U. S., 537) it was held that a statute of Louisiana requiring railway companies carrying passengers in their coaches in that State to provide equal, but separate, accommodations, for the white and colored races, by providing two or more passenger coaches for each passenger train, or by dividing the passenger coaches by a partition so as to secure separate accommodations, and providing that no person shall be permitted to occupy seats in coaches other than those assigned to them on account of the race they belong to, is not in conflict with the provisions either of the Thirteenth Amendment or of the Fourteenth Amendment to the Constitution of the United States. These decisions were made in furtherance of the policy previously adopted by the Supreme Court of the United States, holding the Federal Civil Rights legislation unconstitutional (109 U. S., 3), and thereby leaving the regulation of the merely social relations of the races to State legislation. Previously to such decisions the Supreme Court had decided in *Hall vs. De Cuir* (95 U. S., 845) that legislation requiring persons engaged in the transportation of passengers among the States to give all persons traveling within a State upon vessels employed

in such business equal rights and privileges in all parts of the vessel without distinction on account of race or color, which legislation required a shifting about of interstate passengers from cabin to cabin during an interstate voyage, was repugnant to the commerce clause of the Federal Constitution. On this point Chief Justice Waite, speaking for the majority of the Court, used the following language: "No carrier of passengers can conduct his business with satisfaction to himself, or comfort to those employing him, if on one side of a State line his passengers, both white and colored, must be permitted to occupy the same cabin, and on the other be kept separate. Uniformity in the regulations by which he is to be governed from one end to the other of his route is a necessity in his business, and to secure it Congress, which is untrammelled by State lines, has been invested with the exclusive legislative power of determining what such regulations shall be."

The result of the Federal authorities, as far as journeys or voyages within a State are concerned, would seem to be that common carriers are compellable by State legislation to provide separate accommodations of the two races, of a kind that are permanent, or at least not subject to the change during a single journey, but that the interstate commerce clause of the Federal Constitution would render State legislation invalid which required the shifting of passengers during a journey extending from one State into another. This latter consideration, probably, is sufficient to condemn a "Jim Crow" law of Virginia, in so far as it applies to railroad lines or companies running or operating trains or cars by electricity within and from the city of Alexandria to points outside the State. Considerable notoriety was given to this law last summer through the arrest and prosecution of a daughter of General Robert E. Lee, for refusing to change seats at the conductor's order during a continuous journey from Washington, D. C., to the city of Alexandria. The Virginia statute authorizes or empowers the companies affected, "in all cars or coaches, to separate the white and colored passengers, and to set apart or designate in each car or coach a portion thereof, or certain seats therein, to be occupied by white passengers, and a portion thereof, or certain seats therein, to be occupied by colored passengers."

"That the said companies or corporations or persons so operating trains, cars or coaches upon said lines of railroad or railway, shall make no difference or discrimination in the quality and convenience of the accommodations provided for the two races under the provisions of Section 1.

"That the conductor or manager, or other persons in charge of any car or coach so operated upon any such line of railroad or railway, shall have the right at any time, when in his judgment it may be necessary or proper for the comfort or convenience of the passengers so to do, to change the said designation, so as to increase or decrease the amount of space or seat set apart for either race, or he may require any passenger to change his or her seat when and as often as he may deem necessary or proper."

The question remains as to the constitutionality of a law such as that of Virginia providing for the shifting of passengers from seat to seat in the discretion of the conductor, and operating solely within the State that adopts it. Of course, the presumption is that the Legislature has general power to govern its citizens, and, as above shown, legislation providing for separate cars or compartments is constitutional. If there be any ground upon which purely domestic legislation providing for frequent and compulsory change of seats can be overthrown, it must be that of interference with the constitutional right of liberty. In our opinion a law that calls for or authorizes constant transference of passengers back and forth from seat to seat, during a continuous journey, does infringe upon such right. The definitions of liberty in the decisions naturally do not devote much space to its most obvious and radical phase, that is, freedom from unwarranted physical restraint or coercion. This is taken for granted. The discussions turn upon derivative or extended aspects of the right. In *People vs. Gillson* (169 N. Y., 389-398), for instance, it is said "the term 'liberty,' as used in the Constitution, is not dwarfed into mere freedom from physical restraint of the person of the citizen as by incarceration, but is deemed to embrace

the right of man to be free in the employment of the faculties with which he has been endowed by his Creator, subject only to such restraints as are necessary for the common welfare. Liberty, in its broad sense, as understood in this country, means *the right not only of freedom from servitude, imprisonment or restraint*, but the right of one to use his faculties in all lawful ways to live and work where he will, to earn his livelihood in any lawful calling, and to pursue any lawful trade or avocation." The conception of constitutional liberty expressed in this New York case has been adopted by the Supreme Court of the United States (*Allgeyer vs. Louisiana*, 165 U. S., 578). The words italicized in the passage just quoted are material upon the general question of constitutionality of "Jim Crow" laws. The right of liberty entitles one to be unmolested and unhampered in his action in public places, except in so far as reasonable regulations for the public welfare may demand. It has always been recognized that the cars of common carriers are public, or, at least, quasi-public, places. Railroad companies operate their trains and cars under franchises from the Legislature for the public service and convenience, recognizing that they are affected with a public use and that they are subject to control in the interest of the people at large. It has always been the law that common carriers could make reasonable but not unreasonable regulations to govern passengers. We should say that a provision requiring passengers to move from seat to seat in the discretion of the conductor during a continuous domestic journey is an unreasonable regulation, and one that might become intolerably oppressive, and that, therefore, although made by positive statute, it would amount to an infringement of liberty, as secured by all the State constitutions and the Fourteenth Amendment of the Federal Constitution. We cannot cite any direct authorities for this position, but submit that it is sound according to legal first principles.



CHARTERS, FRANCHISES AND ORDINANCES.

GEORGIA.—Prescription—Lands Held by Municipality—Possession of Street.

1. Prescription does not run against a municipal corporation in regard to land held for the benefit of the public.
2. Accordingly, where a certain strip of land is conveyed to a municipal corporation for use as a public street, and the authorities accept the deed, but open and use but one-half, longitudinally, of the land, adverse possession of the remainder by a private individual cannot ripen into a prescriptive title, although such possession is under a deed from the dedicator subsequent to the deed to the municipality.—(*Norrell vs. Augusta Railway & Electric Company*, 42 S. E. Rep., 466.)

MISSOURI.—Street Railroads—Construction—Right to Lay Tracks—Injunction—Change of Grade—Non-Payment of Damages.

1. Where a city adopts an ordinance changing a street grade, and thereupon damages are assessed in favor of an abutting property owner, but such damages are not paid, and thereafter the city grants a railroad company right to lay tracks in the street conforming to the new grade, the property owner cannot enjoin the laying of such tracks on account of the non-payment of his damages, where it appears that the railroad company intends to lay the tracks at the old grade, and that, if so laid, the property owner will not be injured.—(*Ætna Iron Works vs. St. Louis Transit Company*, 69 S. W. Rep., 618.)

NEW YORK.—Highway—Title of Abutting Owners—Presumptions.

1. Where abutting owners claim under original patents of English colonial governors, or patents confirmatory of grants of Dutch governors, they will not be presumed to hold to the middle of a street which was a public highway at the time of the Dutch occupation, and was one of the boundaries mentioned in the original patents.
2. Where the sovereign or the public authorities are vested with the fee in a highway, the presumption that a grant of land abutting on or bounded by the highway conveys the fee to its center does not prevail.—(*Paige vs. Schenectady Railway Company*, *Lansing vs. Same.* *Van Epps vs. Same.* *Whitmyre vs. Same.* *Beattie vs. Same.* *Thompson vs. Same.* *Vrooman vs. Same*, 77 N. Y. Supp., 889.)

NEW YORK.—Railroads—Crossings—Commissioners—Temporary Crossing—Statutes.

1. Railroad Law (Laws 1890, c. 565) Sec. 12, provides that when a railroad is to be intersected by a new road, and the corporations cannot agree on the grade, compensation, or intersection, commissioners to determine the same shall be appointed by the Supreme Court. Laws 1893, c. 239, provides that, when a petition has been made for the appointment of commissioners, the court may authorize a temporary crossing. Laws 1897, c. 754, as amended by Laws 1900, c. 739, enacts that all steam railroads and street surface railroads thereafter crossing a steam railroad shall be above, below, or at grade of such existing railroad, as the Board of Railroad Commissioners shall determine; and such board shall fix the proportion of expense to be paid by each railroad. Held, that Laws 1897, c. 754, as amended, does not by implication wholly repeal Railroad Law, Sec. 12, nor repeal Laws 1893, c. 239, and oust the Supreme Court of all jurisdiction as to railroad crossings, but merely gives to the Railroad Commissioners the power to determine the manner of the crossing; and the court may order a temporary crossing under Laws 1893, c. 239.—(*Olean Street Railway Company vs. Pennsylvania Railroad Company et al.*, 78 N. Y. Supp., 113.)

NEW YORK.—Railroads—Intersections—Electric Lines.

Laws 1850, c. 140, re-enacted in Railroad Law 1890, c. 565, section 4, subd. 5, conferred on every steam railroad the right to cross or unite its railroad with any other railroad before constructed, at any point on its road, and on the ground of such other railroad, with the necessary conveniences, in furtherance of the object of its connection. Section 12 provides that every railroad corporation whose road is intersected by any new railroad shall unite with such road in forming necessary intersections, and grant the requisite facilities. Held to apply to the intersection and connection of a street railroad operated by electricity with a railroad operated by steam.—(*Stillwater & M. St. Ry. Co. vs. Boston & M. R. Co.*, 64 N. E. Rep., 511.)

NEW YORK.—Constitutional Law—Deprivation of Property—Street Railroad—Policeman—Right to Ride Free—Police Power—Public Safety.

1. Laws 1895, c. 417, authorizing the mayor of a city or incorporated village to issue a certificate to policemen, and making it the duty of all street railroads in such city or village to transport policemen having such certificates free of charge, while traveling in the performance of their duties, is unconstitutional and void, as depriving the railroad company of its property without due process of law.
2. Such statute is not valid as a legitimate use of the State's police power to provide for public safety.—(*Wilson vs. United Traction Co.*, 76 N. Y., Supp. 203.)

PENNSYLVANIA.—Street Railway Companies—Paving Streets—Contracts.

An ordinance accepted by a street railway company, providing that it shall keep the space between its tracks in repair and to conform to the macadamizing or paving in the borough, and that whenever the borough shall hereafter pave or macadamize any street with asphalt blocks, asphalt sheeting or broken stone, the company shall pave or macadamize the part of the street between its tracks with the same kind of material, requires the company, when a macadamized street is repaved with asphalt, to likewise pave between its tracks, notwithstanding an ordinance relieving it from repairs till it earns a dividend.—(*Borough of West Chester vs. St. Ry. Co.*, 52 Atlantic Rep., 252.)

TEXAS.—Foreign Corporations—Right to Hold Property—Doing Business in State—Necessity of License—Construction of Street Railroad—Contract—Assignments.

1. A foreign corporation having power under its charter to acquire and hold real and personal property may acquire title to such property in Texas by the purchase made outside the State, though the corporation has not secured a permit to do business in the State, as such purchase is not the transaction of business within the State by a foreign corporation without a license, which is prohibited by Revised Statutes, Articles 745, 746, and there is no law to prevent a foreign corporation from acquiring and holding real and personal property in the State.
2. A contract by which a street railroad company obligates itself to construct and operate a street railroad is assignable under the general law and under Revised Statutes, Article 308, providing that the obligee of any written instrument not negotiable by the law merchant may transfer his interest by assignment.

WASHINGTON.—Street Railroads—Injury to Passenger—Action—Instructions—Applicability to Pleadings—Weight of Evidence—Cure of Error.

1. An instruction that in considering the weight of testimony the jury must consider not so much the number of witnesses to any given fact, but the quality of the testimony, is erroneous, as an invasion of the province of the jury.

2. An instruction that the quality of the testimony must be considered, more than the number of witnesses, is erroneous, as being misleading and confusing.

3. Error in instructing that, in considering the weight of the testimony, the quality of the testimony must be considered, more than the number of witnesses, is not rendered harmless by a subsequent instruction that the jury are the sole judges of the credibility of the witnesses and of the weight of the evidence.

4. Where the injury complained of was alleged to have been caused by the premature starting of a street car while plaintiff was trying to get off, an instruction defining the duties of railroad companies to passengers leaving trains or cars, and then stating that any breach of these duties would be such negligence as the jury might take cognizance of, was not erroneous, as authorizing a recovery for negligence not charged in the complaint.

5. An instruction seeming to imply that plaintiff had a right to hold on to the hand rail of the car for a reasonable time after getting off, when taken in connection with another instruction to the effect that a passenger was not off of a car so long as he was supporting himself by the hand rail, was not erroneous, as authorizing recovery for negligence not charged in the complaint.—(Gilmore vs. Seattle & R. Ry. Co., 69 Pacific Rep. 743.)

WASHINGTON.—Carriers—Street Railways—Transfers—Mistake of Agent—Substantial Damages.

1. A passenger on a street car line on which the company issued transfers to its various connecting lines received from the conductor a transfer to a line other than the one to which he had requested one. Not noticing the mistake, he persisted it to the conductor on the line to which he had requested a transfer, who refused to accept it. The passenger declined to pay further fare, and was ejected. Held, that since the passenger was under no obligation to make a technical examination of the transfer slip, and since the company was responsible for the mistake of its agent, it was liable in substantial damages for the breach of contract occasioned thereby, though the conductor called upon to correct the mistake was not the one who had made it.—(Lawshe vs. Tacoma Railway & Power Co., 70 Pacific Rep., 118.)

WASHINGTON.—Eminent Domain—Railroad Right of Way—Certiorari to Review Condemnation Proceeding—Existing Right of Way—Property Not in Use.

1. Const. art. 1, Sec. 16, provides that, whenever an attempt is made to take private property for a use alleged to be public, the question whether the contemplated use be really public shall be a judicial question, and determined as such, without regard to any legislative assertion that the use is public. Article 4, Sec. 4, provides that the Supreme Court shall have power to issue writs of certiorari, etc., and all other writs necessary and proper to the complete exercise of its appellate and revisory jurisdiction. No review on appeal of the question of public use and interest involved in the exercise of eminent domain proceedings is allowed. Held, that the Supreme Court had jurisdiction to issue certiorari to bring up for review the record in an action adjudging the right of way of one railroad necessary for another road, that the intended use was a public one, and that the public interest required its appropriation.

2. An application for certiorari, praying for a review of an adjudication that the right of way of one railroad can be condemned for the use of another railroad, or that it is for a public use, and required by the public interest, and denying the power to appropriate such property because it is already appropriated for the construction and operation of a railroad, states sufficient cause for the issuance of the writ.

3. Ballinger's Ann. Codes & St. Sec. 5647, authorizing the appropriation by a railroad of a longitudinal section of existing right of way through canons, passes, and defiles, does not exclude the appropriation of existing right of way in all other cases; and one railroad may, when necessary, condemn a right of way through the right of way of another railroad not in use for railroad purposes, and not necessary for the corporation franchises.

4. The taking of an existing right of way for the right of way of another railroad, which was shown to be practicable, necessary and reasonably safe, did not violate the rights of the first company.—(Seattle & M. R. Company vs. Bellingham Bay & E. R. Company, 69 Pacific Rep.)

LIABILITY FOR NEGLIGENCE.

ALABAMA.—Carriers—Punitive Damages.

1. Punitive damages may be recovered of a carrier by a passenger, where through willfulness or gross negligence of the conductor the passenger was carried by the place at which, when paying her fare, she told the conductor she wanted to get off.—(Birmingham Railway, Light & Power Company vs. Nolan, 32 Southern Rep., 715.)

CALIFORNIA.—Street Railways—Negligence—Contributory Negligence—Crossing Track.

1. Where, in an action against a street railroad for injuries, there was evidence that the car was going at a high and unlawful speed, and that no bell had been rung or alarm given at a crossing which was about half of a short block from where plaintiff was struck, a contention that the evidence showed no negligence was of no merit.

2. Persons crossing a street railroad on a populous street are held only to what, under all the circumstances, is the exercise of reasonable care.

3. In an action against a street railroad for injuries from being struck by a car, there was evidence that the respondent, when she left the sidewalk to cross the street, which was a narrow one, had an unobstructed view of the street both ways, and that she looked both ways, and saw no car approaching, and heard no signal of approach. Held, that a finding that there was no contributory negligence would not be disturbed.—(Kernan vs. Market Street Railway Company (S. F. 2013.), 70 Pacific Reporter, 81.)

COLORADO.—Street Railroads—Receivership Pending Foreclosure—Construction of Road by Receiver—Showing of Necessity.

1. A receiver operating a street railway pending foreclosure of a mortgage applied for permission to build a mile of road. The application set out a provision of the company's charter requiring one mile of railway to be built each year on penalty of a forfeiture of the company's privilege to occupy the streets. There was no allegation that the city would enforce a forfeiture, or that a foreclosure sale might not be had in time to allow the purchaser to build the required portion of road within the year. It was sought to make the receiver's certificates issued to defray the cost of building a lien prior to the mortgage, and the mortgagees opposed the application. Held, that the application did not show an "overwhelming and irresistible necessity" for the construction of the road, which would justify the granting of the application against the protest of the mortgagees.—(Pueblo Traction & Electric Company et al., vs. Allison et al., 70 Pacific Rep., 424.)

FLORIDA.—Negligence—Pleading—Street Railroads—Ordinary Care—Right of Way—Pedestrians—Question for Jury.

1. In actions where negligence is the basis of recovery, it is not necessary for the declaration to set out the facts constituting the negligence, but an allegation of sufficient acts causing injury coupled with an averment that they were negligently done, will be sufficient.

2. Where the declaration is not drawn upon the theory of the rule stated in the preceding headnote, but undertakes to set forth the acts relied on as a cause of action, without stating they were negligently done, it must appear from the direct averments of the declaration that the acts causing the injury were per se the result of negligence, or negligence must appear from a statement of such facts as certainly raise the presumption that the injury was the result of the defendant's negligence.

3. The act of 1891 (chapter 4071) applies to street railroads, but it does not change the rule of pleading negligence to the extent of permitting only an allegation of injury or damage by the running locomotives, cars, or other machinery of a defendant company. The statute does not fix arbitrarily liability for an injury done, but under it there is a presumption of negligence arising from injury.

4. The measure of duty under the act of 1891 is all ordinary and reasonable care and diligence, and what will constitute the amount or kind of diligence required will vary under different circumstances, as the terms "ordinary" and "reasonable" are relative, and what under some conditions would be ordinary and reasonable diligence might under other conditions amount to even gross negligence.

5. Street cars, regardless of the power by which they are impelled, have no superior rights to other vehicles or pedestrians at regular street crossing, in the absence of a specific legislative grant, but their rights are equal and in common, and impose correlative duties on the respective parties.

6. The employees of a street car company in operating cars have the right to presume that a pedestrian will exercise ordinary and reasonable care and avoid injury from moving cars, and they are not required to stop a car until it becomes evident to a person of ordinary and reasonable care and prudence that the pedestrian has failed in his duty, and has placed or is about to place himself in a perilous situation. The duty, however, devolves upon the employees to keep a vigilant lookout for persons on or approaching the track, especially at street crossings, and, when they are discovered to be in danger or going into danger on the tracks, to use every effort consistent with the safety of passengers to avoid injuring such persons.

7. Additional pleas amounting only to the general issue may properly be stricken out on motion.

8. In an action against a street car company for damages for

alleged injury caused in the running of a car, an instruction to the jury is properly refused that seeks to limit the duty of the company's employees to avoid the injury to the time when they became aware of plaintiff's danger, without reference to whether they had observed all ordinary and reasonable care before that time to discover the dangerous situation of plaintiff.

9. When the question of negligence arises upon a state of facts on which reasonable men may fairly arrive at different conclusions, the fact of negligence cannot be determined until one or the other of those conclusions has been drawn by the jury. The inferences to be drawn from the evidence must be certain and uncontrovertible, or they cannot be decided by the court.—(Consumers' Electric Light & Street Railroad Company vs. Pryor, 32 Southern Rep., 797.)

GEORGIA.—New Trial—Review of First Grant—Question of Law.

1. Unless the verdict rendered was absolutely demanded by the evidence (which does not appear in this case), this court will not undertake to decide whether or not the trial judge abused his discretion in granting a first new trial, even though the grant thereof was based solely upon a single question of law, in the determination of which it was unnecessary to consider the evidence in the case. *Weinkle vs. Railroad Co.*, 33 S. E. 471, 107 Ga. 367; *Watson vs. Mortgage Co.*, 37 S. E. 363, 112 Ga. 253; *Harvey vs. Bowles*, 37 S. E. 363, 112 Ga. 363; *McCain vs. College Park*, 37 S. E. 971, 112 Ga. 701; *Carter vs. Dunson*, 38 S. E. 830, 113 Ga. 374; *Thornton vs. Insurance Co.*, 42 S. E. 287, 116 Ga.—(*Macon Consol. St. R. vs. Jones*, 42 S. E. Rep., 468.)

GEORGIA.—Trial—Instructions—Conflicting Evidence—Review.

1. It does not appear that the court in its charge unduly emphasized the contentions of the plaintiff to the prejudice of the defendant.

2. One of the instructions complained of being in and of itself correct and pertinent, the same cannot be properly treated as erroneous because of a failure to give in the same connection some other instruction appropriate to the case.

3. Whether the instructions given to the jury with respect to the law of presumptions were or were not in all respects correct, the charge, taken all together, was not, either with regard to this particular branch of the law, or otherwise, prejudicial to the defendant, but as a whole fairly and sufficiently presented to the jury the law of the case.

4. The evidence, though decidedly conflicting, was sufficient to warrant the verdict, and, the same having been approved by the trial judge, the Supreme Court will allow it to stand.—(*Atlanta Consol. St. Ry. Co. vs. Jones*, 42 S. E. Rep., 524.)

GEORGIA.—Injury to Employee—Action for Damages—Instructions.

1. The instructions to the jury, of which complaint is made by the defendant company in its motion for a new trial, were not, for any of the reasons therein assigned, open to criticism; and the evidence, though conflicting, fully warranted a finding in favor of the plaintiff.—(*Atlanta Ry. & Power Co. vs. Bennett*, 42 S. E. Rep., 244.)

ILLINOIS.—Street Railroads—Personal Injuries—Setting Down Passenger—Action—Evidence—Admissibility—Preponderance—Instructions—Harmless Error.

1. An instruction is not bad for first stating the claim made by plaintiff as shown by the declaration.

2. An instruction, in an action by a passenger against a street railroad for injuries received by starting the car while she was alighting, that it was the duty of the company to carry the passenger to her place of destination, is not erroneous, as being on a matter having no tendency to prove plaintiff's claim.

3. An instruction that a "preponderance of evidence may not be entirely determined by the number of witnesses testifying to a particular fact or facts" cannot be construed as an instruction to disregard the number of witnesses in determining the preponderance of evidence, and therefore is not erroneous.

4. An instruction that a preponderance of evidence may not be entirely determined by the number of witnesses, even if erroneous, as an instruction to disregard the number of witnesses in determining such question, is cured by an instruction that the number of witnesses testifying on the one side or the other of a disputed point may be considered in determining the preponderance of the evidence.

5. An instruction that the fact that plaintiff may have testified differently in some respects at a former trial does not warrant the jury in disbelieving his testimony is not erroneous, as not being based on anything occurring during the trial, if plaintiff has been examined as to statement made by him as a witness on the former trial for the purpose of showing a contradiction in his testimony.

6. An instruction that, though the jury may believe that the testimony of plaintiff on a former trial differs in some respects from his present testimony, such fact alone does not warrant the jury in disbelieving his testimony, even if not warranted by anything occurring at the trial, does not authorize the reversal of a judgment for plaintiff; it being rather calculated to harm him.

7. The mere fact that witnesses testify directly opposite to each other does not require the jury to find that such point is not proven; but they have the right to consider all the surrounding circumstances tending to corroborate the one or the other.

8. Where there is evidence tending to sustain a cause of action, a judgment will not be reversed in the Supreme Court because not sustained by the weight of the evidence.

9. The refusal, in an action for injuries received by the negligent starting of a street car while plaintiff was alighting therefrom, to instruct that the burden is on plaintiff to show by a preponderance of the evidence how she came to fall, is not erroneous, when considered in connection with other instructions that plaintiff cannot recover if the jury believes from the evidence that she alighted in safety and fell down from other causes, and that she cannot recover unless she shows by a preponderance of evidence that defendant was negligent in the manner charged in the declaration, and that such negligence was the proximate cause of the injury.

10. The refusal of an instruction that the jury is not required to believe any witness, if they believe he is swearing falsely, is not erroneous, where an instruction is given that the entire testimony of a witness believed to have sworn falsely as to any material fact may be disbelieved, if not corroborated by other credible evidence.

11. The defendant, in an action against a street car company for injuries to a passenger, cannot show that the car employees did not make a report of the accident, as the admission of such evidence would enable the defendant to make evidence for itself.—(*West Chicago St. R. Co. vs. Lieserowitz*, 64 N. E. Rep., 718.)

INDIANA.—Street Railroads—Negligence—Contributory Negligence—Question for Jury—Appeal—Bill of Exceptions.

1. Where an effort was made to bring the evidence into the record under the invalid act of 1899, but the transcript contained the essentials of a bill of exceptions, the bill being signed by the judge, subsequently filed, and incorporated in the transcript, and duly certified, it was sufficient.

2. On a motion for a peremptory instruction the court accepts as true all facts that the evidence tends to prove in favor of the party against whom the instruction is asked, and draws against the party making the motion all inferences that the jury might draw; and when there is room for difference of inference the issue is for the jury.

3. Burns' Rev. St., 1901, Sec. 359a, provides that in actions for injuries contributory negligence is a matter of defense, and freedom from it need not be proved by plaintiff. Held, that defendant in an action for injuries is entitled to the benefit of evidence introduced by plaintiff.

4. One about to cross a street railroad track stopped his horse, and looked and listened, and, neither seeing nor hearing a car, drove on the track, the wheels of the buggy making a grinding noise on the gravel, when the buggy was struck by a car approaching from the east without warning. A car at a point 1500 ft. east of the place of crossing could not be seen, owing to a hill. Held, that the question of negligence was for the jury.

5. The question of contributory negligence was for the jury.—(*Howard et al. vs. Indianapolis St. Ry. Co. et al.*, 64 N. E. Rep., 890.)

NEW YORK.—Temporary Injunction—Discretion of Court—Review on Appeal.

1. Where plaintiff's affidavits and complaint do not establish its right to a temporary injunction, and the answering and replying affidavits are contradictory, challenging the good faith of both parties, an order denying a motion for such injunction will not be disturbed.—(*Syracuse & O. L. Electric Ry. Co. vs. Syracuse Rapid Transit Ry. Co.*, 77 N. Y. Supp., 812.)

NEW YORK.—Street Railroads—Collision—Contributory Negligence—New Trial—Conditions—Costs.

1. Where a driver approaches a cross street in the daytime, and sees, a block distant from the street railroad crossing, a motor car approaching at the rate of 20 miles an hour, with its motorman not looking ahead, he is guilty of contributory negligence if he attempt to cross when the motor car is not more than 50 ft. away from him.

2. Where a verdict against a defendant is set aside as against the weight of evidence, defendant must stipulate that on final recovery its costs shall not be taxed against the plaintiff, and, if plaintiff finally recovers, entire costs shall be taxed in his favor.—(*Seggerman vs. Metropolitan St. Ry. Co.*, 77 N. Y. Supp., 905.)

FINANCIAL INTELLIGENCE

The Money Market

WALL STREET, Jan. 28, 1903.

Conditions in the money market remain substantially the same as they were a week ago. Time money can still be obtained readily at $4\frac{3}{4}$ per cent, and there is talk of even further concessions to be secured by borrowers. Call loans meanwhile have been marked down everywhere to a 4-per-cent basis, with occasional transactions below that figure. In spite of this easy situation, sterling exchange continues to display obstinacy about advancing toward the gold export point. Rates, in fact, are fractionally lower than they were last week. The exchange movement altogether has completely refuted the contention made by bankers and others a short while ago that we could not have easy money here without promptly losing gold to Europe. These expectations have been deceived mainly by reason of the sudden revival of the agricultural export trade, which keeps up very heavy in spite of a sharp rise in cereal prices. Along with this, discount rates have relaxed and bank resources increased abroad in such a manner as to indicate that Europe does not really need our gold and will not do anything to hurry an export movement from this side. The expansion of the New York surplus reserve continues, under the influence chiefly of the Treasury's large disbursements and arrival of currency from the interior. There are no signs at present of either of these movements slackening. According to the statement last Saturday, the local banks gained over \$9,000,000 in cash holdings and were able to add over \$5,000,000 more to their surplus reserve. This item now stands \$1,000,000 higher than a year ago. The trust companies of New York State have also submitted a rather unexpectedly favorable report of their year's operations. It appears that against a \$70,000,000 loan expansion during the first six months of 1902 loans decreased \$54,000,000 during the second six months. This left a net increase of only \$16,000,000 for the year, which was much more than offset by an increase of \$18,000,000 in cash holdings. The improvement in the trust company position has quite as much to do as the recent recovery in Clearing House bank resources, with the easing of the money market.

The Stock Market

Stock trading in the general market has dragged along listlessly during the week. Undoubtedly the reawakening of uncertainty regarding the trouble in Venezuela has had much to do with this. Sensational newspaper discussion of the subject or some outburst against Germany on the floors of Congress were possibilities which the average speculator, whether big or little, did not care to encounter. At this writing, a satisfactory settlement of the whole "Venezuela question" seems to be assured; consequently the influence upon market operations will cease. It remains now to be seen how far the stagnation in the Stock Exchange trading has been due to the dragging in of this outside complication and how far it has merely conformed to a settled speculative situation. The lack of public interest in the market and its causes are the most frequent topic of discussion at the present time in Wall Street. Beyond question, the opinion is held in many high quarters of finance that the enormous product of new securities during the last few years has led to a congestion which can only be relieved by offering a higher interest yield to the investment community. Exponents of this view find great significance in the lower premiums bid for the recent issue of New York City bonds and in the comparatively high rates which corporations like the New York Central and Pennsylvania Railroads have had to pay in their recent borrowings. From this they argue that prices of investment securities in general are too high and will have to sell down to a level where 4-per-cent-yielding bonds, for instance, will yield $4\frac{1}{2}$ per cent. Possibly some such reasoning as this is the keynote to the waiting attitude of the public in the stock market and the consequent dullness of the trading. But, on the other hand, no real desire appears among holders of stocks to sell, and there is certainly nothing unfavorable in the outside conditions.

The market for the local traction stocks during the week has reflected a revision of opinion concerning the importance of the recent adverse decision upon the franchise tax. The first impression seemed to be that the verdict of the appellate judges meant that any tax law of the sort would be unconstitutional, and hence that the State corporations might eventually escape the tax alto-

gether. As soon, however, as the text of the decision was carefully read people appreciated that the principle of the franchise law was upheld and that if the measure were so amended as to put the assessing power in the hands of local instead of State officials it would satisfy the courts. Recognition of this fact probably accounts for the heaviness of the traction stocks in the recent dealings which has appeared most prominently in Metropolitan and in Metropolitan Securities. Manhattan held up well until the issue of the "rights" yesterday, when it weakened decidedly. Brooklyn Rapid Transit meanwhile has received the usual market support from the speculative interests in the property.

Philadelphia

Little news or incident has attended the dealings in the Philadelphia Traction issues during the week. The market has been dull naturally in sympathy with the stagnation in stock speculation everywhere. About the only feature of interest was the unusually large transactions in Philadelphia Traction at $98\frac{1}{2}$ and $98\frac{1}{4}$. It is a safe conjecture that the greater part of these reflect an investment demand, inasmuch as there can be little incentive to speculators in the stock. With the exception of two days, when a few thousand shares were traded in, Rapid Transit was completely neglected. It rose at one time to $16\frac{3}{8}$, but fell back at once to 16. Union Traction was more active, but every sale recorded occurred between $46\frac{3}{4}$ and 47. American Railways was rather weak at one period, selling down to $51\frac{1}{2}$. Later it rallied to 52. The only other transactions in street railway stocks were a few lots of Pittsburgh Traction preferred at $51\frac{3}{4}$.

Chicago

The decline in Union Traction common stock from 15 a week ago to $11\frac{3}{4}$ yesterday has been the sensational feature in the Chicago stock market this week. The whole subject of the franchise extension and the readjustment of the company's capital is in a very muddled shape before the public mind. There seems to be little doubt about the franchise being extended for another twenty years, but there is much doubt as to whether new capital will be willing to take hold of the property without the assurance of a longer extension than this. Stockholders of the Union Traction and constituent companies—the West Chicago and North Chicago—are responding satisfactorily to the call of the Protective Committee for deposits of stock, but the first conference of that body regarding future plans will not be held until the Eastern representatives return to Chicago. Consequently it will be several days before the public is enlightened at all regarding the situation. The break in the Union Traction shares has been due chiefly to liquidation of timid holders who have been frightened out by rumors that an assessment on the stock would be necessary. It does not appear, however, that there is any substantial basis for this story. Traction preferred sold down from 50 to $48\frac{3}{4}$, but on the whole has held much better than the common. City Railway shares, after selling at 230, dropped off to 225 on light sales. West Chicago fell at one time as low as $87\frac{1}{2}$, but rallied later to 90. Elevated shares have been very inactive. Lake Street has sold between $7\frac{3}{4}$ and 8, Northwestern common from 33 up to $33\frac{1}{2}$ and Metropolitan preferred at $88\frac{1}{2}$. The 4 per cent Metropolitan bonds have changed hands at 101 and Northwestern Elevated 4's at $95\frac{1}{2}$ and $95\frac{1}{8}$. Passenger traffic on the latter road has increased so far this month about 14 per cent over the same period a year ago. Estimates of Metropolitan's earnings for the fiscal year ending next month place the increase over last year at more than \$100,000.

Other Traction Securities

Boston Elevated did not change its position at all during the week, selling alternately at $153\frac{1}{2}$ and 153. Trading was unimportant in this and in all the other Boston stocks. Massachusetts Electric common went as low as $35\frac{1}{2}$ and then rallied to $36\frac{1}{4}$, while the preferred was steady at 94. West End common varied between 94 and $94\frac{1}{2}$ and the preferred sold at 112. In Baltimore, the United Railway issues showed some slight improvement, the stock rising from $13\frac{1}{2}$ to $13\frac{3}{4}$, the income bonds from 67 to $67\frac{3}{8}$ and the general 4's from 95 to $95\frac{1}{4}$. Even these meager gains, however, were not held, the market being so extremely dull. The only other Baltimore sales reported were Knoxville Traction 5's at 103, Baltimore Traction 5's at $116\frac{1}{2}$ and Anacostia & Potomac 5's at 100. The following is a complete record of traction sales from last Wednesday to yesterday, inclusive, on the New York

curb: United Railways of St. Louis preferred at 80, New Orleans common at 15½, American Light & Traction from 43½ to 44 and back to 43¾, Interborough Rapid Transit (full paid) from 115½ to 114½, Interborough (50 per cent paid) at 115½, Washington Electric preferred at 48, Brooklyn City Railroad from 244¾ to 245½, San Francisco 4's (interest on) from 80½ to 81½ and back to 81, San Francisco 4's (sellers 20) from 81 to 81¾, San Francisco subscription privileges from 48½ to 50 and then to 49¾, United Railways of St. Louis 4's at 84½ and 84¼ and Washington Traction 4's at 80. Traction were again quiet on the Cleveland 'Change, the total sales being only 757 shares, against nearly 3000 shares the week before. Two 100-share lots of Cleveland City Railway sold at 109, a drop of six points since its high mark of 115 some months ago. This is the first time this stock has been traded in since last fall. Later there were several small sales at 108. Lake Shore Electric sold up to 15¾, a gain of ¾ over the previous week. One hundred preferred sold at 50½, ¼ under last price. Aurora, Elgin & Chicago preferred sold at 93¼ and 93¾ for two small lots. The common dropped a half, at 34½, for fifty shares. Cleveland Electric advanced from 87¾ to 88¾; during the previous week it sold as low as 85½. Northern Traction & Light went at 19½. Syracuse Rapid Transit lost two points, selling at 30. Monday there was a good demand for N. O. T. & L., but the buyers seem to be united in trying to force it down. Two lots sold at 19, which is the lowest record. Western Ohio receipts sold at 28½ for a small lot.

Security Quotations

The following table shows the present bid quotations for the leading traction stocks, and the active bonds, as compared with last week:

	Closing Bid	
	Jan. 20	Jan. 27
American Railways Company	51½	51½
Aurora, Elgin & Chicago	a37	32
Boston Elevated	152½	153½
Brooklyn R. T.	67½	68
Chicago City	230	228
Chicago Union Tr. (common)	15	12
Chicago Union Tr. (preferred)	45	45
Cleveland Electric	86½	86½
Columbus (common)	61	63
Columbus (preferred)	104	—
Consolidated Traction of N. J.	66	66
Consolidated Traction of N. J. 5s.	106¾	107
Detroit United	87½	87
Electric People's Traction (Philadelphia) 4s.	98	98
Elgin, Aurora & Southern	51	a54
Lake Shore Electric	14¾	14
Lake Street Elevated	7¾	7¾
Manhattan Railway	153	144¾
Massachusetts Electric Cos. (common)	35½	35¼
Massachusetts Electric Cos. (preferred)	94	93½
Metropolitan Elevated, Chicago (common)	36	36
Metropolitan Elevated, Chicago (preferred)	87	87
Metropolitan Street	140½	138½
New Orleans Railways (common)	15¼	15½
New Orleans Railways (preferred)	—	—
North American	116	112
Northern Ohio Traction & Light	—	16
Northwestern Elevated, Chicago (common)	32	33
Philadelphia Rapid Transit	16¾	16
Philadelphia Traction	98½	98¼
St. Louis Transit (common)	28½	28
South Side Elevated (Chicago)	107	107
Syracuse Rapid Transit	28¾	28¾
Syracuse Rapid Transit (preferred)	a80	75½
Third Ave.	124	123
Toledo Railway & Light	a38	a36
Twin City, Minneapolis (common)	119½	a122
United Railways, St. Louis (preferred)	80¼	80
United Railways, St. Louis, 4s.	84¼	84¼
Union Traction (Philadelphia)	46¾	46¾
Western Ohio Receipts	27¾	28

a Asked. † Ex-"rights." The rights closed on Tuesday at 6%.

Iron and Steel

The production of crude iron continues to be hampered by scarcity of fuel and of transportation facilities. This helps to keep prices firm, and efforts of the large consuming interests to obtain concessions on the ground that the level is too high have so far not been successful. It is a curious fact that, although imported foundry iron can be purchased at tidewater from \$2 to \$3 a ton below the prevailing domestic prices, imports still continue very small. The only apparent explanation for this is the difficulty of obtaining transportation and the high rates asked for it from

seaboard to the centers of production. The market for pig iron in general is quiet, and so is the trade in steel billets. On the other hand, new orders are being booked in large volume in steel rails, structural material and plates. Quotations are higher for the week on the basis of \$22 to \$22.50 for Bessemer pig, \$29.50 to \$30.50 for Bessemer steel and \$28 for steel rails.

Metals

Quotations for the leading metals are as follows: Copper, lake, 12¾ to 12½ cents; tin, 28 cents; lead, 4½ cents, and spelter, 4.90 to 5 cents.

ANNUAL REPORT OF THE CAPITAL TRACTION COMPANY OF WASHINGTON, D. C.

The annual report of the Capital Traction Company for the year 1902 has just been made public. It gives in detail the general operation figures, together with the balance sheet, and presents the treasurer's report for the several divisions. The general operating report shows:

Gross earnings from operation—	
Receipts from passengers.....	\$1,377,152
Mail	2,874
Freight	1,007
Total earnings from operation.....	\$1,381,033
Less operating expense (46.616% of passenger receipts)	631,987
Net earnings from operation.....	\$749,046
Income from other sources—	
Advertising	\$10,000
Rent of land and building.....	7,252
Miscellaneous income	626
Sale of tickets.....	3,129
	21,207
Deductions from income—	
Taxes	\$58,154
Interest	47,503
Tax for special policemen.....	10,449
	116,106
Net income from all sources.....	\$653,947
Deductions from net income—	
Dividend	480,000
	\$173,947
Received from sale of real estate.....	558,780
Balance Jan. 1, 1902	35,548
	\$768,274
Less amounts expended for:	
Extra dividend (paid from proceeds of sale of power house site).....	\$480,000
Renewal fund	97,853
Bills payable	100,000
Construction and equipment.....	56,130
Real estate	1,801
	735,783
Balance Dec. 31, 1902.....	\$32,491
The total motor car mileage was 4,861,142, and the total trail car mileage was 4,342,406, making the grand total 9,203,548.	
Balance sheet Jan. 1, 1903.	
ASSETS.	
Construction	\$7,600,818
Equipment	3,874,757
Real estate	1,362,616
Renewal fund	83,516
Profit and loss.....	265,191
Cash	32,491
	\$13,219,389
LIABILITIES	
Capital stock	\$12,000,000
Bonds	1,080,000
Bills payable	100,000
Tickets	39,389
	\$13,219,389

PROPOSED INTERURBAN RAILWAY IN ILLINOIS

Preliminary steps have been taken to establish an electric interurban railway to parallel the Alton road from Joliet through Will, Grundy, Livingstone and McLean counties, in Illinois. At Joliet connections will be made with the Chicago & Joliet electric line for Chicago. The new line is to be known as the Bloomington, Pontiac & Joliet Electric Railway, and the principal office will be at Pontiac, and the capital stock is placed at \$100,000. The promoters are James A. Carothers and Fred L. Lucas, of the Pontiac Water & Light Company, who have had the enterprise under consideration for some time. Bion J. Arnold, of Chicago, is the consulting engineer, and under his direction a preliminary survey has been made. The route selected passes through the townships of Joliet, Jackson, Florence, Wilmington and Reed, through Braceville, Greenfield, Gardner and Goodfarm Townships in Grundy County, and will pass through the cities and villages of Dwight, Nevada, Odell, Pontiac, Chenoa, Lexington, Towanda, Normal and Bloomington. The estimated cost of the road and equipment is \$2,500,000.

It is the purpose of the company to obtain the right of way by purchase and through the towns and cities by franchise. As soon as this is done construction will begin. The construction is to be of heavy standard steam road rails and ballast. The rolling stock is to be heavy type and each motor car to be provided with 300 hp in motor equipments. It has not been definitely determined yet whether the trolley or third rail system will be used. The service will be for passenger and express, and the cars will be run at the rate of 60 miles an hour. Through express trains will stop only at regular stations, but there will be other trains which will stop on signal at all highway crossings, as well as stations. The rates of tickets will be about one-half of fares on steam roads. The main power station will be built at Pontiac, with sub-stations at other points. A double track will be built as business warrants and arrangements made to do freight business.

OBJECT TO STATE ELECTRICAL LABORATORY

The board of directors of the American Institute of Electrical Engineers has passed a resolution disapproving of the establishment on the part of the State of an electrical laboratory and standardization bureau. A commission appointed by the last Legislature recommended the appropriation of \$275,000 for establishing the laboratory in connection with Union College at Schenectady. In order to ascertain the opinion of electrical experts on the question, a committee was appointed by the directors of the American Institute and circulars of inquiry were sent to a central station representative in every central station in the State and to one consulting engineer and one operating engineer in every State in the Union. All the replies received were against the proposition, on the ground that great damage would result to the electrical industries by the establishment of a State bureau because of conflicts in standards and of standard methods of testing apparatus.

AIR BRAKES FOR NEW YORK SUBWAY

The Interborough Rapid Transit Company has recently awarded contracts for the air brake equipment of its first installment of 500 cars. There are 340 motor cars and 160 trailers. The contracts were divided between the Christensen Engineering Company, of Milwaukee, and the Westinghouse Air Brake Company, of Pittsburgh. The latter company received the order for the brake apparatus proper, such as engine valves, triple valves, brake cylinders, piping, etc., for all the cars. The Christensen Company received the compressors, governors, etc., for 350 equipments. This type of the Christensen air brake apparatus is, with one exception, in use on all the elevated railways in this country and on almost all of the high-speed interurban railways using multiple-unit system of control. The air compressor is to be the Christensen No. 2 independent motor-driven air compressor, which has a capacity of 20 cubic feet of free air per minute. The contract calls for the Christensen automatic multiple-unit governor. This is the same type of apparatus as is now in use on the Boston elevated and Brooklyn elevated and the elevated railways of Chicago.

The quarterly statement of the St. Louis Transit Company shows that for the three months ended Dec. 31, 1902, 1,279,088 trips were made and that 34,672,649 passengers were carried. For the corresponding quarter of 1901, 1,116,646 trips were made and 29,978,982 passengers were carried. This shows that 162,442 more trips were made in 1902 than in 1901 and that 4,693,667 more passengers were carried.

ANNUAL DINNER OF THE A. I. E. E.

The annual dinner of the American Institute of Electrical Engineers will be held at Sherry's, New York City, on Monday, February 9, and will be specifically a "library" dinner, just as the brilliant affair of last year was a Marconi dinner. The presidency of Mr. Scott has witnessed a wonderful growth in the new library, based on the gift of the Latimer Clark collection by Dr. S. S. Wheeler and seconded by the generous gift of Andrew Carnegie, who duplicated in a money donation for general purposes the value of the Wheeler gift. Mr. Carnegie is to be the guest of honor upon this interesting occasion before his departure for the South, so that the members will have an opportunity of expressing to him their gratitude for his liberality and encouragement. The list of speakers will not be long, but will include some very well known men, and will have throughout a literary flavor. The dinner is to be attended by ladies as well as gentlemen, and the dinner committee believes there will be an attendance in excess even of that enjoyed in 1902. Tickets will be \$5 per cover, without wine, which will be served a la carte, and orders should be sent in at once to the secretary at 95 Liberty Street. Only orders accompanied by check will receive attention. A novel and attractive menu design, worthy of careful preservation, has been prepared for the affair.

THE TOLEDO RAILWAYS AND LIGHT COMPANY

At the recent annual meeting of the Toledo Railways & Light Company the following directors were elected: H. A. Everett, L. E. Beilstein, Albion E. Lang, E. W. Moore, Robert Van Courtlandt, Herbert S. Holt and Barton Smith. Mr. Lang was chosen chairman of the board; Mr. Everett, president; Mr. Beilstein, vice-president and general manager; E. O. Reed, secretary, and S. D. Carr, treasurer. The annual report of the president was presented by Mr. Lang, who retired from the office a month ago. It showed that the company is in a very prosperous condition. It was decided to purchase forty new cars, and since the meeting contracts have been placed with the J. G. Brill Company, of Philadelphia, for ten semi-convertible cars and with the Kuhlman Car Company, of Cleveland, for thirty standard closed cars, the same as those now being delivered by that company. The cars will be equipped with two G. E.-67 motors and will be mounted on Brill 27-F trucks. The company is just receiving ten 30-ft. double-truck cars from the Niles Car & Manufacturing Company, of Niles, O. When all of the cars are delivered the system will be practically equipped throughout with long double-truck cars.

THE ANNUAL MEETING OF THE DETROIT UNITED RAILWAY

At the annual meeting of stockholders of the Detroit United Railway, held last week, the following officers and directors were re-elected: H. A. Everett, chairman of board; J. C. Hutchins, president and general manager; Arthur Pack, vice-president; George H. Russel, treasurer; Edwin Henderson, secretary; A. E. Peters, assistant secretary; H. A. Everett, E. W. Moore, H. R. Newcomb, R. A. Harman and George H. Russel, of Cleveland; J. C. Hutchins and Arthur Pack, of Detroit; R. B. Van Courtlandt, of New York, and H. S. Holt, of Montreal, directors. The president's report showed that the company built last year 12.9 miles of track, making a total of 513.9 miles owned by the company. A total of \$798,889 was spent for improvements during the year, of which \$548,134 went to the Detroit United lines proper; \$104,897 to the Rapid Railway and \$143,858 to the Sandwich, Windsor & Amherstburg Railway. The surplus for the three systems, after all operating expenses and fixed charges were deducted, was \$282,962. The Detroit United lines carried 93,035,817 passengers, the Rapid Railway 3,730,095 and the Sandwich, Windsor & Amherstburg 1,612,515 during the year, a total of 98,378,427. For carrying them the Detroit United received .036 cents per passenger, the Rapid Railway .95 cents per passenger and the Sandwich, Windsor & Amherstburg .406 cents per passenger. Net earnings per car mile—Detroit United, 8.36; Rapid Railway, 9.91, and Sandwich, Windsor & Amherstburg, 5.94.

MEETING OF THE STERLING-MEAKER COMPANY

At the annual meeting of stockholders of the Sterling-Meaker Company, 420-422 Ogden Street, Newark, N. J., January 15, the following were elected directors: J. Albert Stowe, Charles S. Ackley, L. L. Whitney, O. W. Bird and George Rice. The directors chose J. Albert Stowe president and treasurer, Charles S. Ackley vice-president and Edward F. Wickwire secretary.

PROPOSITIONS TO LEASE TOLEDO AND DETROIT SYSTEMS

The Everett-Moore syndicate admits the truth of the report that an Eastern syndicate has made overtures looking to the lease of the property of the Toledo Railways & Light Company, of Toledo, and the Detroit United Railway, of Detroit. The proposition contemplates a lease on a graduated dividend basis, as has been done in other large cities. Mr. Everett states that nothing has been accomplished beyond a general discussion, which has been fragmentary. No definite proposition has been made. It was reported that a proposition of this kind would be submitted to the stockholders of the Toledo Railways & Light Company at the recent annual meeting, but it did not materialize.

THE PITTSFIELD ACCIDENT

The case against the motorman and the conductor of the electric car that collided with the President's carriage at Pittsfield last September, thereby causing the death of Secret Service Officer William Craig, came to a sudden ending January 20. By an agreement between their lawyer and the district attorney both men withdrew their plea of not guilty and pleaded guilty to the charge of manslaughter. The agreement between counsel was that the conductor was to be allowed to go free, while the motorman should be sentenced. Justice Pierce then passed sentence on Euclid Madden, the motorman, to pay a fine of \$500 and serve a sentence of six months in the house of correction.

STREET RAILWAY PATENTS

[This department is conducted by W. A. Rosenbaum, patent attorney, Room No. 1203-7 Nassau-Beekman Building, New York.]

UNITED STATES PATENTS ISSUED JAN. 20, 1903

718,619. Electric Heating System; E. E. Gold, New York, N. Y. App. filed Jan. 10, 1900. Heaters having major and minor heating elements are arranged along the car in series and by means of shunt circuits any of the major and minor heating elements can be thrown into service.

718,636. Railway Switch; P. F. King, Cleveland, Ohio. App. filed March 24, 1902. A spring-mounted lever is pressed downward from the car to engage the arm of a spider wheel in the roadbed, said spider-wheel being connected with the switch point through a suitable connecting rod and gear wheels whereby it is adapted to throw the switch.

718,639. Vehicle with Electromotive Power; O. Lasche, Charlottenburg, Germany. App. filed June 3, 1901. The combination of a wheeled axle, a spring-supported tubular motor shaft surrounding the axle and in driving connection therewith, and a safety cushion located between the axle and the shaft to prevent the latter from pounding against the axle in case of a breakage of the supporting springs.

718,773. Car Truck; S. F. Klohs, Chicago, Ill. App. filed Oct. 13, 1902. The truck is so constructed that the principal parts may be easily removed, so that in case of breakage of any part a corresponding part may be readily substituted.

718,674. Car Switching; J. E. Swanson, Des Moines, Iowa. App. filed Jan. 16, 1902. Details.

718,678. Trolley; G. R. Tomb, Lorain, Ohio. App. filed May 21, 1902. The pole is connected with a piston in a cylinder; when the trolley jumps the wire air is admitted to the cylinder and moves the piston to thereby lower the pole.

718,812. Brake Beam; J. H. Baker, Allegheny, Pa. App. filed May 29, 1902. Comprises a compression member formed of an I-beam, the flanges at the ends and on one side of the beam being cut away and reinforcing channel bars secured to the ends of the beam, the adjacent faces of the web and of the beams and channel bars being diagonally grooved.

718,868. Means for Operating Fare Registers; J. F. Ohmer, Dayton, Ohio. App. filed July 31, 1902. Details.

718,869. Fare Register; J. F. Ohmer, Dayton, Ohio. App. filed Aug. 21, 1902. The mechanism through which the registering wheels are turned to zero puts the machine out of operative condition during the period in which the said mechanism is in an operative position relative to the register.

718,888. Car Fender; C. A. Taylor, Winchester, Ill. App. filed

March 21, 1902. A yielding triangular-shaped fender adapted to push a person or object to one side of the track.

718,925. Block System for Railways; H. J. Fuller, Winchester, Mass. App. filed March 5, 1901. A single-track railway divided into blocks by turnouts and having automatic mechanism for cutting off the current from a car when it reaches a turnout until the arrival of another car at the turnout.

PERSONAL MENTION

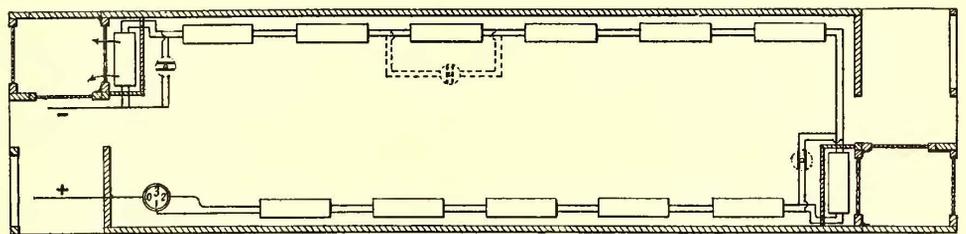
MR. JOHN MARSH, who has been in the employ of the Wheeling Traction Company, of Wheeling, W. Va., for a number of years, has been appointed assistant general superintendent of the company.

MR. F. BOYKIN JACOBS recently accepted the position of superintendent of the new railway supply department of the Standard Electric Company, with offices in Norfolk, Va., Charlotte, N. C., Atlanta, Ga., and Danville, Pa.

MR. LYTLE J. HUNTER, of the Hunter Illuminated Car Sign Company and Hunter Automatic Fender Company, was in New York on a short business trip last week. Mr. Hunter reported business throughout the country in his specialties as very good.

MR. HENRY SUMNER KEMP, of the Standard Electric Company, of Norfolk, Va., was married on January 21 to Miss Annie Ray Field. Mr. Kemp has been for many years actively engaged in railway business, and he was for several years superintendent and purchasing agent of the Staten Island Railway Company. He has many friends throughout the country, who extend their congratulations on this occasion.

MR. SAMUEL G. DECOURSEY, president of the American Railways Company, of Philadelphia, Pa., and a leading figure in financial and railroad circles for many years, died Tuesday, January 27, at his home in Philadelphia from the effects of an attack of grip. Mr. DeCoursey was born at Queenstown, Queen Anne County, Md., Dec. 28, 1839. He was educated at St. James' College and came to Philadelphia in 1854, entering the dry goods house of Henry Farnum & Co. In 1863 he founded the firm of DeCoursey, Hamilton & Evans, dry goods commission merchants. He acquired an interest in the Western New York & Pennsylvania Railroad, and while serving on the board of directors was elected to the office of vice-president. This he held for four years, and in 1892 was elected to the presidency of the road. Mr. DeCoursey continued at its head until the road was absorbed by the Pennsylvania, in 1900, and is credited with bringing it out of bank-



PATENT NO. 718,619

ruptcy and putting it on a paying basis. He was also a director of the Fairmount Park Transportation Company. Mr. DeCoursey's first wife was Miss Lizzie Otto Barclay, to whom he was married in 1864. Mrs. DeCoursey died about six years ago. In August, 1900, Mr. DeCoursey was again married, his second bride being Mrs. Mary C. Wheeler. Besides his widow Mr. DeCoursey is survived by a son and two daughters.

AT A RECENT DINNER given by Mr. George Westinghouse to prominent scientists and railway men in London Lord Kelvin made a speech, in which he acknowledged England's indebtedness to their host. After referring to the invention of the air brake and to the frequent visits which Mr. Westinghouse makes to the mother country, he remarked: "The present development of the electrical industry in the United Kingdom owes its growth largely to him. I do not think any man could be named in the world of engineering to whom more is due than to Mr. Westinghouse for his work in electric engineering." He also declared that England was indebted to their entertainer for "bringing and causing to be appreciated here American methods of industry, resolution and determination."

NEWS OF THE WEEK

CONSTRUCTION NOTES

MONTGOMERY, ALA.—William Berney, president of the Fourth National Bank, has been granted a street railway franchise by the Board of Revenue.

TEXARKANA, ARK.—J. S. Tritle, of St. Louis, and R. A. Gray, of Texarkana, who were recently granted an electric railway and gas franchise here, have secured a twenty-year city lighting contract.

BIRMINGHAM, ALA.—The Birmingham Railway, Light & Power Company has let a contract to the American District Steam Company, of Lockport, N. Y., for the erection of a steam heating plant to cost \$100,000. The same company has nearly completed its 25-mile electric car line loop connecting Birmingham and Bessemer, and will soon have it in operation.

LOS ANGELES, CAL.—The Pacific Electric Railway Company has ordered twenty more big broad-gage coaches for its interurban service. The order is placed with the St. Louis Car Company, and makes a total of thirty such cars, ordered during the past month. They are to be delivered within ninety days. The equipment of a number of the cars will include four 75-hp motors, to be used on the company's Pasadena "short line" and the Long Beach line for speedy summer service.

LOS ANGELES, CAL.—The Pacific Electric Railway Company's new line to Monrovia will be completed and opened to the public early in February. The business men of Azusa and Glendora, and the valley beyond Monrovia have appealed to Mr. Huntington and other officers of the Pacific Electric Railway Company to have the company extend its Monrovia road about 10 miles to Glendora. Mr. Huntington states that he has the matter under careful consideration.

LOS ANGELES, CAL.—Interest is renewed in the persistent rumor that the old Terminal steam road from this city to Tropic and Glendale is soon to be equipped with electricity by the San Pedro, Los Angeles & Salt Lake Railroad Company. The road is about 12 miles long.

ONTARIO, CAL.—Some extensive improvements are planned for the Ontario & San Antonio Heights Electric Railway Company's road, which is about 7 miles long.

LOS ANGELES, CAL.—The Pacific Electric Railway Company has made formal application to the City Council for permission to lay a third rail on First and Main Streets. Considerable opposition has developed against the third rail, but it is absolutely necessary, if the company is ever to reach its new \$600,000 depot (now under construction) with the interurban lines from Pasadena, Monrovia, Alhambra, Whittier and Long Beach. With the exception of one Pasadena line these roads are all broad-gage, while the tracks now lying on the city's main streets are narrow-gage.

SAN JOSE, CAL.—Work has been begun about 4 miles from here on the San Jose, Saratoga & Los Gatos Electric Railway.

RIVERSIDE, CAL.—Wilcox & Rose, owners of a franchise for an electric railway between this city and Colton, have laid 50 ft. of rails in the middle of Mulberry Street, between First and Second Streets. This beginning of work was made just in time to save the franchise from lapsing, and now the owners have two years in which to complete the road. Mr. Rose states positively that the line will be built within the time prescribed by law.

DENVER, COL.—A survey has been made by the Denver City Tramway Company for the extension of its lines to Golden.

ANSONIA, CONN.—The Connecticut Railway & Lighting Company plans to extend its lines from Cheshire to Milldale, where connections will be made with the company's line to Meriden and Southington, thus completing connections in a line between New Haven and Hartford.

JACKSONVILLE, FLA.—The Jacksonville Traction Company, recently incorporated to build a street railway here, has elected officers as follows: Peter A. Dignan, president; John F. Cannon, first vice-president; H. Mason, second vice-president; Arthur F. Perry, secretary and treasurer; Harwick & Cannon, general counsel.

ALTON, ILL.—The new survey of the Alton, Granite City & St. Louis Electric Railway, around the railroad tract recently purchased by the Big Four and Frisco, at Mitchell, has been completed, and a right of way has been secured for the property holders.

EAST ST. LOUIS, ILL.—The East Side Terminal Company, the promoters of which are remaining in the background, has given notice that it intends asking the East St. Louis City Council for an extensive railroad franchise in East St. Louis. The ordinance will be presented on Feb. 2. According to the petition, the franchise asked for is about the largest and most important ever asked for in the history of the city. If granted, it will give the East Side Terminal Company the right to build a railroad completely around the city of East St. Louis, running on and across many of the principal streets.

CHICAGO, ILL.—The 6-mile double-track extension of the Chicago & Milwaukee Electric Railway from Lake Bluff to Libertyville is now nearly completed, and will probably be put in operation next month. A further extension to the west is to be built in the spring.

CHICAGO, ILL.—As a counter proposition to the proposal of the subcommittee of the committee on local transportation for a partnership arrangement with the city for the construction of a downtown subway system, the Washburne-Alexander syndicate has replied that if the city will supervise the issue of bonds and stand any loss that may result from selling them at a discount, it will accept the proposition. The proposition involved

the practical abandonment of the syndicate's original proposal for an ordinance for the construction of subways.

CHICAGO, ILL.—The Chicago, Elgin & Waukegon Railway Company, incorporated Oct. 20, 1902, plans to build to connect Waukegon, Elgin, St. Charles and Hammond. None of the details have been worked out, and it is impossible to say when contracts will be awarded for construction. The office address of the company is 183 Dearborn Street, Chicago.

ROCKFORD, ILL.—It is announced that the rails for the Rockford & Interurban Railway are to be delivered in May. The roadbed will be in readiness as soon as the rails arrive, and then construction work will be pushed rapidly.

CAIRO, ILL.—The Cairo Electric Light & Power Company has secured an option on the plant of the Egypt Electric Company, and will secure control some time within the present month. The price agreed upon is in the neighborhood of \$40,000. The Egypt Company operates the original street car line here, besides furnishing light and power. The new owners are the Holliday interest, Major E. W. Holliday being the head of the Cairo Electric Company. By this deal the entire street car system of the city, as well as the entire electric lighting system, will be under one management. It is rumored that one result of the consolidation will be the construction of an electric railway connecting Cairo with Mound City, Mounds and Villa Ridge.

EAST ST. LOUIS, ILL.—Negotiations are on between representatives of the East St. Louis & Suburban Electric Railway and the O'Fallon Railway known as the Gundlach-Thomas road, whereby the East St. Louis & Suburban Company is to secure a certain portion of the road for transportation purposes. That part which is being negotiated for will connect with the Collinsville line at the bluffs, and run through what is known as "Nigger Hollow." If secured by the East St. Louis & Suburban Company it will shorten the proposed route to O'Fallon.

LAFAYETTE, IND.—The Fountain-Warren Traction Company has been granted a franchise here.

ELWOOD, IND.—The Elwood-Tipton branch of the Union Traction Company's system has been placed in operation.

MUNCIE, IND.—The Muncie, Middletown & Greenfield Railway Company has secured from the town board of Middletown an extension until Jan. 1, 1904, in which to begin work on its proposed line.

EVANSVILLE, IND.—The Evansville & Mount Vernon Traction Company is endeavoring to secure a franchise at Mount Vernon. The company is planning to build several lines radiating from Evansville.

CLAY CITY, IND.—The Black Diamond Electric Railway Company has been refused a franchise here because its application did not contain a clause as to when construction would be begun.

LOGANSPORT, IND.—The promoters of the interurban line between Frankfort and Logansport, via Burlington, have been granted a franchise in Logansport. This completes the rights asked for by the company.

SHELBYVILLE, IND.—The Indianapolis, Shelbyville & Southeastern Traction Company has decided to extend the line to Batesville, and has surveyors at work on the route. This is said to be the beginning of extensions that will ultimately reach Cincinnati.

ALBANY, IND.—An electric railway is projected to run from this city to Eaton. It is believed to be a branch of the Muncie, Hartford City & Fort Wayne Railway, now nearly completed. The power house is located at Eaton, and a representative of the Chase Construction Company, which is building the latter line, is negotiating for the right of way between Eaton and Albany.

WABASH, IND.—The Fort Wayne & Southwestern Traction Company has financed its extension to Marion, and has made a traffic arrangement with the Wabash-Logansport Traction Company whereby through limited cars are to run over the road from Fort Wayne to Logansport. It is even intimated that negotiations are in progress for the sale of the Fort Wayne & Southwestern. It is thought the system will be bought by the owners of the Wabash-Logansport line.

KEOKUK, IA.—The Keokuk Electric Railway & Light Company has presented to the Council an application for certain specified concession in the way of franchise extensions in return for certain improvements to its property that are to be of inestimable benefit to the public. The company asks an extension of its gas franchise to twenty years, for freight, express and mail privileges over existing street railway and other lines; for the privilege of installing a central steam or hot-water heating plant, and for an all-night lighting contract for a term of 5 years, at \$72 per lamp per annum. In return for these concessions the company agrees to construct a new power house, an interurban line to Hamilton and Warsaw, and generally improve its local lines. It is unofficially said that the plan to build to Hamilton is the forerunner of a line to Fort Madison.

LOUISVILLE, KY.—The Louisville Railway Company recently secured at public sale the franchise for the construction of an electric railway on Castlewood Avenue, from the present terminus of the lines of the Louisville Railway Company to the city limits.

NEW ORLEANS, LA.—The Orleans & Pontchartrain Electric Railroad, controlled by the New Orleans Railways Company, has been placed in operation. The new line extends out Napoleon Avenue to Carrollton Avenue, and thence out Metairie Road to the Halfway House, where connection will be made with the West End trains for the lake resorts. It is 5 miles long. At present it is a single track, but will be double-tracked at once.