

Street Railway Journal

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EDITORIAL NOTICE

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 STREET RAILWAY JOURNAL,
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An Important Departure in Railway Management

The Boston Elevated Railway Company inaugurated last week a step for the benefit of its employees which should certainly be appreciated by them. The plan is so radical that the results of the experiment—for the company admits that the proposition is largely experimental—will be watched with a great deal of interest by other railway companies. It is an almost trite saying that the processes of law are both tedious and expensive. So well recognized has this fact become that many men whose financial resources are not large, and even those who have considerable capital, are often willing to stand serious injustice rather than go to the expense which consultation with a lawyer as to their legal rights would entail. The result is that in many cities legal aid societies have been established to give gratuitous legal advice to those who otherwise would not consult a lawyer.

The Boston Elevated Railway Company, realizing the benefit of such advice to its employees, issued on Sept. 14 the following notice:

Hon. Russell A. Sears, manager of the legal department, authorizes the publication of the following notice:

Beginning Monday, Sept. 14, 1903, any employee of this company will be furnished legal advice concerning his personal affairs by the legal department, free of charge. Any employee desiring to avail himself of the above may call at the offices of the legal department, at 101 Milk street, room 300, and, upon showing himself to be an employee, will be assisted in his affairs, as far as legal advice is concerned, by the attorneys of the company.

This undertaking is largely experimental, and should it be deemed expedient to enlarge, qualify or discontinue the same, due notice will be given.

We believe that co-operation of this kind between a large company and its employees is of the most practical character, and that it will be appreciated by the latter as much as perhaps any other step which a railway company could take.

The Right of Way

Although the Saratoga Convention has passed, there are many subjects discussed at the meetings which will provide food for thought for a long time to come. With the three associations in session, the topics to which attention was directed were extremely varied and covered practically every branch of street railway work. We shall feel justified, therefore, in referring occasionally, in the next few issues, to some of the papers read at Saratoga and the facts to which they direct attention.

We wish that every influential newspaper in the country would give place to Mr. Vreeland's admirable convention paper and to the discussion that followed it. It would do more to promote a clear understanding of the issues involved and to establish sensible and friendly relations between the public and the street railways than any other piece of missionary work which we could indicate. Instead of a proper comprehension of the motives and intentions of the street railway manager there is generally to be found a silly hostility which has no sound basis of any kind. Demagogues are howling about soulless corporations and pointing the finger of scorn at street railways, when the great mass of the people are steadily profiting by their work. We grant that franchises have sometimes been obtained by questionable methods, that roads are sometimes greatly overcapitalized, that employees are sometimes careless and insolent, and that street railways in common with most other things have their faults, but, nevertheless, the average passenger gets full value for his nickel. The most sordid selfishness on the part of a street railway management would stop short of repelling passengers consciously. If a road has watered its stock by so much the more it finds it for its interest to keep on good terms with the one necessary source of its dividends. And the discussion of Mr. Vreeland's paper shows most plainly that the consistent attitude of enlightened street railway men is a recognition of their duties to the public and a cordial desire to promote good service. Last winter we had occasion more than once to call attention to the necessity of public co-operation with the street railways to lessen the almost intolerable congestion that occurs in great cities, and in no way can this be more effective than in defining the relative rights of the majority who ride in street cars and those of the minority who do not.

The trolley car is the poor man's automobile, and it is emphatically for his interest that it should not be blocked or hindered in its progress, delayed by needless restrictions or shut out from the streets which he wishes to traverse. If you look into the merits of any controversy regarding a proposed fran-

chise, in nine cases out of ten you will find that it is the few trying for their own selfish ends to curtail the rights of the many in the common highway—Ebenezer Gotrox trying to appropriate the public domain for his 60-hp Purple Demon, instead of using it in common with his fellow-citizens. Now, the right of the road is for all men, and the public can and should make such provisions as may insure convenient and peaceable use of the highway to all comers. But, as was pointedly suggested in this discussion, the general laws concerning the right of way are imperfect, antiquated, little known and carelessly enforced. So long as the streets are used only by a small variety of vehicles running at rather moderate and uniform speeds, very simple regulations are sufficient to secure relative safety and the enforcement of them is easy. But such a condition no longer exists. The streets are now used by vehicles operated at speeds which were never seriously contemplated in the old regulations, and an entirely new set of conditions has thereby arisen. It was not a serious matter in the old horse-car days if a dray jogged along for a block or two in front of an ambling car; the speeds of the two were not widely different, and there was hardly an excuse for bad language in the situation. Now, when cars must make their 8 m. p. h. or 10 m. p. h., in response to public demands and to meet public needs, it is very easy to cause annoying delays and to throw traffic hopelessly off its appointed schedule. The automobile, operating at similar or greater speed, and not like the street car, confined to a track, raises a new series of difficulties, and altogether the time is fully ripe for a reconsideration of the whole question.

Much can be done, as the discussion shows, by informal personal appeals to owners of vehicles. Most men, especially business men used to large affairs, have learned to respect the rights of others in our common daily life, and at least have learned not to infringe them recklessly. So, understanding that a friendly understanding of mutual rights is a good thing for all concerned, they are quite willing to lend a hand in the practical solution of the right of way question. But this informal and voluntary action does not go far enough. It is high time to revise the rules of the road to meet the radically new conditions that have arisen, and to enforce the rules, once established, without fear or favor. If a city is to reap the full benefits of modern rapid transit it must see to it that street cars are not delayed at every block by wanton violations of law or of common decency in such matters. We stand committed in this generation to urban life, but we have not yet learned how to make that life reasonably comfortable. As Mr. Vreeland intimated, in many foreign cities the details of everyday life are much better regulated than here, mutual rights are far more clearly defined, and infractions of the rules dictated by public policy are far more rigorously dealt with. We think, with him, that street railways could and would accept on their part much closer public regulation than is now usual if they could at the same time be sure of their own proper rights in the streets. As it now is the public calls loudly for faster and more frequent service, and blocks the streets so as effectively to prevent it. When one tries to crowd a million or two human beings into a few square miles one must remember that they require space in which to move about, and must keep that space clear. A city under the present regime is like a tenement with narrow halls cluttered by the ash pails and garbage barrels of every slat-ternly family in the place. You cannot win it for cleanliness and respectability until a passageway is cleared and kept cleared to the freer space outside its walls.

The Conduct of Labor and Other Organizations

The recent experience in the New York building trade with a notorious labor leader has illustrated in a very striking way the tremendous hold which a labor leader has on the sentiments of the members of his union. It seems to make little difference how incompetent or even dishonest he may be in his conduct of the affairs of the body. After he has once been elected to his position the rules applicable to the conduct of other business associations seem to be regarded as of little weight compared with the false idea that the leader must be sustained in any position he takes, whether it is right or wrong. Once having installed him in control of their affairs the labor union finds its leader as hard to get rid of as Sindbad found the Old Man of the Sea.

Now, this is extremely unfortunate, for all experience goes to show that in organizations of this kind it is the almost universal tendency for the radical and reckless element to get the upper hand. The conservative men, even when in a majority, find it difficult, if not impossible, in any general meeting, to offer satisfactory opposition to the views of the more hot-headed members. The very fact that the men when gathered in general assembly see a large body of their fellow workers, gives them the idea of the strength which they would possess if acting as a unit, and the spirit of opposition is almost always an easier one to awaken than that of conciliation. In any meeting of this kind there are always some soreheads, and as men with grievances are usually more glib talkers than those who have no complaints, they are often able to create a feeling of dissatisfaction in the minds of a considerable portion of their hearers who would never have had this thought without outside suggestion. The popular sentiment, at a meeting of this kind, is often that those who talk against a fight are inspired by cowardice, while those who advocate a contest, often because they have nothing to lose therefrom and everything to gain, have a great deal of pluck. This feeling, together with that of class friendship, will often keep in power a disgraced labor leader against the better judgment and sense of the majority of the men composing his union.

These facts are too well known to admit of dispute, and we venture the assertion that more than half of the strikes ever instituted were originally opposed by the better judgment of the majority of those who participated in them. Of course, after a strike has commenced, and especially after it has continued for some time, other events arise which obscure the original cause of the dispute. The employers accept the announced sentiments of the labor leader as representing the opinion of the majority of the men, and are apt to take steps which are considered arbitrary by the latter. It is an exception when an Arthur is selected to a post of responsibility among the employees.

A street railway manager who has had a long experience in the handling of men said recently in commenting upon these facts that for the reasons here mentioned he did not consider it advisable to encourage his men to hold mass meetings. In this policy he has had the support of the best element among the men themselves, who did not wish to be forced by their comrades into any action contrary to their better judgment and welfare. This is even carried so far that in a mutual benefit association which was organized some time ago by the men themselves, it was voted to hold no annual meetings. The names of the candidates for the office of managers of the association are nominated by the members of the retiring board each year, and are duly posted on the bulletin boards of the different car houses. They are then voted for by ballots, which

are dropped in boxes located in each car house. The company contributes a certain amount to the funds of the association annually, the men also make their weekly payments to the treasury, and sick and death benefits are paid therefrom. A novel feature of the conduct of the finances, however, is that at the end of each year the entire amount of money remaining in the treasury is distributed equally among those members who have received no benefits during that period. The result is that it is not uncommon for a member to receive back as much as he paid in, and in some cases somewhat more, due to some men leaving during the year and to the initial donation of the railway company.

While this distribution is of itself a departure in the administration of mutual benefit associations of this kind, the most original feature of the plan is undoubtedly that of having no annual meeting, club rooms or other places at which the men assemble as a body. This policy has been strongly advocated by many members of the association who have been afraid that if any more tangible organization was started they would be forced as members of a body to take action which they would not approve as individuals. The best men on his road, according to this manager, and, in fact, on any road, as a rule, are those who do not have to be cajoled into doing good work by club rooms, billiard tables and other pastimes. They have their own social resources, can provide their own pleasures, and only wish to be let alone by their fellow workers and allowed to do their daily work. This class of man, still quoting from the manager already mentioned, constitutes the majority of the employees of most roads, but, as a rule, not so large a majority or so persuasive in argument that they can successfully combat a hot-headed minority anxious to make trouble if given the opportunity.

Transfer Frauds in Chicago

The Chicago City Railway Company has detected frauds in connection with its transfers, and has secured indictment against a newsboy and three conductors. It seems that the conductors have been giving transfers to this newsboy, and that he has been selling a transfer with a paper for 5 cents, the conductors sharing in the profits.

It is thought that there may be other similar cases, and they will doubtless be prosecuted vigorously, as the company is determined to stamp out these abuses. A few years ago it was customary in Chicago for passengers to ask for transfers even when they did not need them, and then to give them to newsboys, who would sell the transfers along with their papers. This kind of fraud was stopped by the company, however, after a great deal of hard work; but it seems that it has been gradually increasing again, and that some of the conductors have become involved in the affair.

It is always difficult to prevent frauds of this kind, as experience has shown in many cities. We know of one company whose management suffered great losses through abuse of transfer privileges on account of an understanding between employees and saloonkeepers, who were always supplied with transfers, which were freely dispensed to customers. In Chicago conductors were instructed not to accept transfers when it was apparent that they had been improperly secured, and this naturally led to many complications. It served to check the abuses somewhat, however. Before the order was given newsboys dealt openly in transfers. Restrictions and careful inspection finally eradicated the evil at that time, but apparently the reform was not permanent and more stringent measures will be necessary before it is entirely wiped out.

The Denver Movement

The city of Denver has been engaged in a lively campaign during the last two months over a new charter, which embodies many of the peculiar views that have been so popular for several years throughout the West. As might be expected, under the circumstances, the advocates of municipal ownership were busy while the proposed charter was being prepared, and as a result the restrictions that it is proposed to place upon all franchises hereafter will make them very unattractive to investors; in fact, there is very little left of the old idea of a franchise in the license or revocable permit which it is proposed to substitute for it. An individual or a company may secure permission to engage in some public enterprise for which formerly a franchise would be granted, but now if the project prove profitable the city may step in and secure possession at any time "at a reasonable valuation;" the grant may be amended or repealed, and the rates charged by the grantees for the service performed are subject to revision at all times by the city. Stock and bonds can be issued only against actual cash invested or property of equal value, and the entire management is subject to the general supervision of the city. It is quite probable that the movement for the adoption of this measure will fail.

And yet the plan outlined is the logical culmination of the populistic tendencies in vogue throughout that section of the country, and of the ideas that are gaining ground in the East as well. The men who framed the proposed charter for Denver were consistent at least, although the frankness with which they avowed their purpose stripped the municipal ownership fallacy of many embellishments, and presented it in its true light, so that every man now must know that his support of such measures means approval of a policy of confiscation. They have thus unwittingly done a real service to the entire country. If they have awakened a sense of responsibility among the men who are habitually "against corporations" and impressed upon their minds the danger of encouraging these attacks upon legitimate enterprise, as seems quite likely at present, the movement will prove as great a public benefit as it originally threatened to become a public calamity.

Temporary Relief Denied Chicago

Mayor Harrison, of Chicago, has refused to authorize permits to change some of the Union Traction cable lines to electric traction as a temporary expedient to relieve congestion. This plan was talked of by the receivers, and was favorably considered by disinterested taxpayers, but because of the Mayor's opposition it will probably be abandoned.

This action on the part of the Mayor is in keeping with his attitude throughout the present controversy. He has taken a very narrow view of the question, sacrificing the interests of the city and the convenience of the people in order to gratify his personal spite and make cheap political capital out of the situation. Chicago, to-day, affords a striking example of a great city with financial and industrial interests of great magnitude, which are entirely lost sight of, if, indeed, they are comprehended, by the small-fry politicians comprising the present municipal administration. The avowed purpose of this clique is to keep the traction question open for political advantage, and every effort to relieve the situation that has thus far been made by the companies or the people who are suffering as a result of this policy has been vigorously opposed by the band under Mayor Harrison's leadership. It is about time for the self-respecting element in the City Council, particularly the transportation committee, to assert itself.

ELECTRIC TRAMWAYS IN AUCKLAND, NEW ZEALAND

An extensive electric tramway system is nearing completion in and about Auckland, and this city will soon enjoy the proud distinction of being the first in New Zealand to have electrically-operated tramways throughout. The new system not only serves the city of Auckland but crosses North Island to the neighboring suburbs of Onehunga, and serves a total popu-



SOME SPECIAL TRACK WORK

lation of about 70,000. The change from horse to electric traction in Auckland has occupied about eighteen months, during part of which interval a bus service was temporarily substituted for the displaced horse cars. The advent of electric traction should be very welcome to the residents of Auckland, for the steep hills on which their city is built have made animal traction very slow and laborious.

In July, 1901, contracts covering the track construction, overhead line, power station, feeder system and cars were placed with J. G. White & Company, of London, Eng., who in turn sublet the contract for rails and conduit to John McLean & Sons, of Auckland, and the building of the car house to J. Ellingham, also of Auckland, but undertook the general supervision of the construction of the tramways by their own engineers.

TRACK CONSTRUCTION

All of the old track had to be relaid, and as several new lines were added, there are at present in operation about 34 miles of line, only about 4 miles of which is single track.

Since nearly all streets in Auckland arc from 40 ft. to 60 ft. wide, the company has encountered no construction difficulties in installing so large a proportion of double track. In fact, the clearance between such tracks is fully 6 ft., permitting the extensive use of center poles. Where single track is installed it is not placed in the center of the street, but provision is made for the installation of another track alongside when increased traffic demands it.

The rails are of the full-grooved type, are $6\frac{1}{2}$ ins. high, and weigh 92 lbs. to the yard. They were rolled in standard lengths of 37 ft., as it was found that this was the greatest length that could conveniently be shipped. Angle plates are used, and the rail-joints are bonded with 0000 B. & S. copper bonds of the Chicago type. The sub-construction used is concrete stringers, in which the rails are bedded to a depth of about 1 in., and which are 18 ins. wide by 9 ins. deep. All Auckland streets are

macadamized to a depth of 9 ins. throughout except Queen Street, where 2 ins. of Neuchatel asphalt, laid on a bed of 6-in. concrete, is used for paving. In this street the concrete under the pavement is made continuous with the deeper concrete under the rails. As the rainfall in Auckland is excessive, amounting in some years to 60 ins. or more per annum, arrangements have been made for draining the track through slots in the rail groove. These slots are connected through narrow culverts with the sewer system. The rails were supplied by the Lorain Steel Company and the special work is of the same company's guaranteed type.

FEEDER CONDUITS

The conduits for the feeder cables are of the Camp type, and have ducts varying in number from one to twenty-four, several spare ducts having been laid for further extensions. The conduits are inclosed in concrete 4 ins. thick, and are run into manholes about 90 yds. apart, except on curved track, where they are placed closer together. These manholes are of two sizes, 4 ft. x 4 ft. internally by 5 ft. deep, and 2 ft. 5 ins. x 3 ft. 5 ins. internally by 3 ft. 6 ins. deep. The covers, which are of cast-iron, have asphalt tops 2 ins. thick, instead of being corrugated. The ducts are laid so as to drain into the manholes, some of which are connected with the main sewer by a special line of drain pipe to prevent the collection of water.

Many difficulties had to be overcome



CENTER POLE OVERHEAD CONSTRUCTION

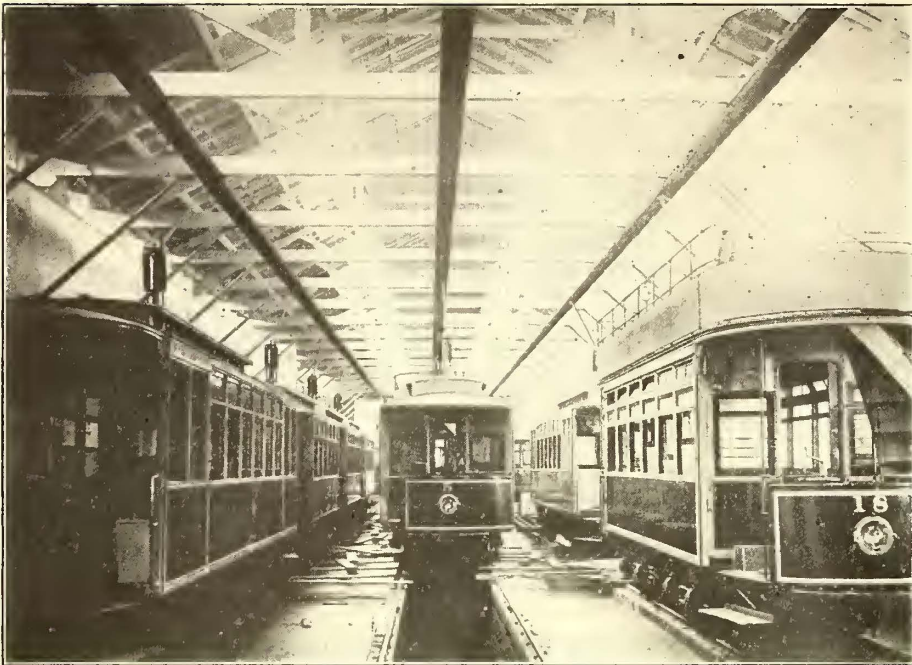
owing to the great number of gas and water pipes crossing the conduit way. The presence of telephone poles on both sides of the road also caused trouble, as the telephone department would not permit the laying of conduits near the telephone poles. To



OPENING OF THE AUCKLAND ELECTRIC TRAMWAYS



VIEW ALONG QUEEN STREET



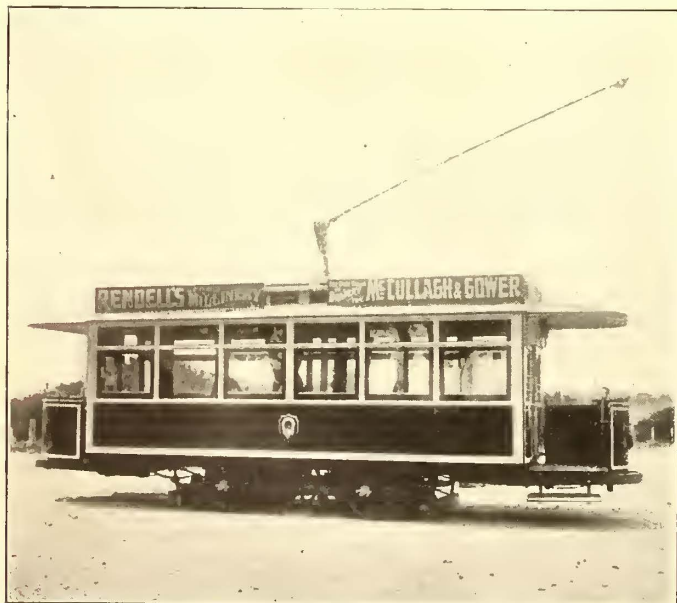
INTERIOR OF CAR SHED

guard against contact between falling telephone and trolley wires the telephone wires had to be insulated where they crossed the trolley wire, and a number of telephone poles had to be replaced by higher ones. All the expenses of these alterations were borne by the tramway company.

All feeder cables are of Callender manufacture. The overhead feeders used in the city are paper insulated, but the conduit feeders are insulated with vulcanized bitumen. The feeder boxes are placed on the edge of the foot paths. In the suburbs the feeder cables are carried on the center poles on special arms fastened above those carrying the trolley wire and are not insulated.

OVERHEAD CONSTRUCTION

Center poles are employed wherever the streets are wide enough to permit their use, otherwise side poles with span wires have been adopted. Span-wire construction is also used at all curves and junctions. In the city the poles are 115 ft.



SINGLE-DECK, SINGLE-TRUCK CAR

apart, are set in holes 6 ft. deep on 6-in. concrete, and surrounded by a wall of 8-in. concrete. All center poles have cast-iron wheel guards to prevent accidents from vehicles, and are made conspicuous by being painted white for 6 ft. above the ground. The trolley wire is carried 21 ft. above the rails. Some of the poles in Queen Street are also surmounted by arc lamps.

All city poles are made of iron; those used in the outlying districts are made of a hardy native wood, and are tarred at the bottom for 7 ft.

The trolley wire used is round No. 00 B. & S. hard-drawn copper, divided into half-mile sections. The section boxes are fastened to the poles. A separate telephone circuit for the exclusive use of the tramway has also been installed. The wires for this telephone system are carried on the center poles.

POWER STATIONS

The power station is located close to Waitemata Harbor, and is approximately



SINGLE DECK, DOUBLE-TRUCK, COMBINATION TYPE CAR

105 ft. square. It has a steel frame work filled in with brick, and a roof of corrugated iron laid over boards about 1¼ ins. thick. The boiler house adjoins a wharf, thus saving the cost of coal cartage. To provide for future extensions the left-hand walls of both engine and boiler house are made of corrugated iron only.

The power equipment consists of:

Four Babcock & Wilcox boilers, fitted with chain-grate stokers. Each boiler has 2100 sq. ft. heating surface and operates at a pressure of 150 lbs. per square inch.

One 360-tube Green economizer.

Three horizontal cross-compound Corliss engines made by Cole, Marchent & Morley, Ltd. The normal output of each engine is 475 ihp, and maximum output 700 ihp, at 100 r. p. m., with steam pressure of 150 lbs.

Three 300-kw, eight-pole, direct-connected, direct-current, 500-volt to 550-volt, compound-wound railway generators, made by the General Electric Company, with one 25-kw auxiliary unit and four boosters.

The switchboard is in an elevated position along the front wall of the building, and contains seventeen panels, namely, three generator, one load, one Board of Trade, four booster, six feeder, one lighting and one spare panel. The panels are of

polished blue Vermont marble, and the board was furnished by the General Electric Company.

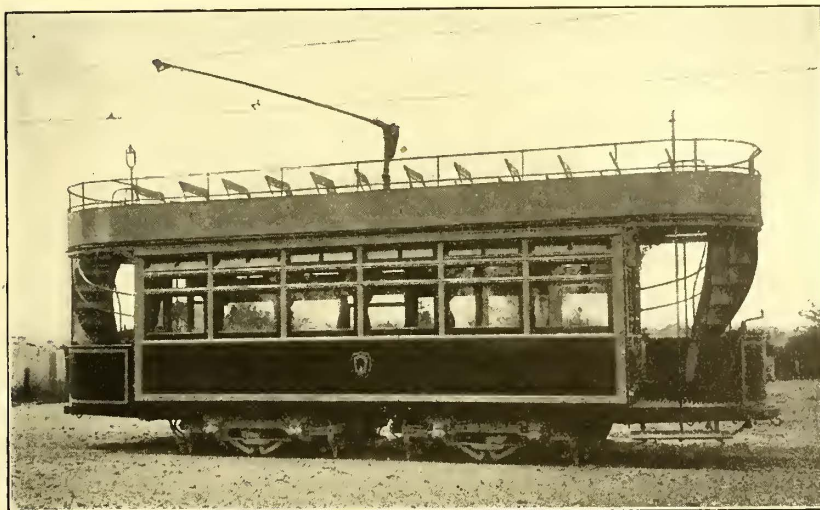
The engineers' offices are in a separate building adjoining the power house.

CAR HOUSES

The principal car depot and shops are situated in Ponsonby. The chief building is in two bays, 354 ft. and 328 ft. long, respectively, and each 39 ft. wide. It contains a car house with six lines of track and accommodations for forty-four cars, blacksmith, fitter, carpenter and paint shops, repair and testing rooms. A complete set of woodworking machinery and a drying oven have also been installed. Above the general machine shop there is a special loft for seasoning timber. A second car house is in course of erection at Epsom. It will have a capacity of thirty cars.

CARS

All the cars used were constructed by the Brush Electrical Engineering Company, Ltd., London. They were sent to Auckland in sections and erected there. The three types shown in the accompanying illustrations are now standard. The first is a single-truck, single-deck car, fitted with two 40-hp Brush motors, type 1200. It has a separate compartment for smokers



DOUBLE-DECK, DOUBLE-TRUCK CAR

and seats thirty-two passengers. The second illustration shows a single-deck, double-truck combination-type car with closed center and open ends for smokers, and seats forty-eight passengers. The company also operates a double-deck, double-truck car with four-motor equipment, seating eighty passengers. All cars are fitted with hand brakes, Spencer slipper brakes and Brush controllers. Owing to the numerous steep grades on the lines the operating apparatus is of specially high efficiency.

The width of all cars is 7 ft. 6 ins., and cross seats are used throughout. The cars have straight instead of curved sides and vertical paneling to prevent moisture lodging in the joints. The windows are made wide and low.

The present rolling stock consists of forty-three cars, with eight more in course of construction.

CAR ROUTES

The cars began running on Nov. 24, 1902, on which day the Newton-Ponsonby line started with a 10-minute service. This headway was reduced, however, as soon as more cars became available. On Dec. 11 the College Hill-Ponsonby line was opened, and on Dec. 24 the first car started for Newmarket, via Ryker Pass, sixteen months before contract time.

MANAGEMENT

The Auckland Electric Tramway Company is controlled by the British Electric Traction Company, of London, and has the

following officers: C. S. B. Hilton, chairman; Paul M. Hansen, general manager; R. P. Simpson, secretary; C. Keary, chief electrical engineer; Ed. Duncan, assistant electrical engineer; R. Rodgers, depot manager; H. A. Dando, superintendent of overhead work. W. S. Turner, formerly of New York, has been superintending the erection of this tramway on behalf of J. G. White & Company, Ltd., with C. W. G. Little, chief engineer; Selwyn Grant, chief assistant engineer, and J. Stewart and M. F. Carey as resident engineers.

CONVENTION SUGGESTIONS

Among the suggestions made at the Saratoga Convention not the least important was that contained in the opening address of the chairman relating to the plan of making the gatherings of the Association partake more of the nature of business meetings than has heretofore been the case. This plan has been very generally discussed since the return of the members of the Association and is highly commended. Without entirely eliminating the social feature, it is agreed that the present plan should be changed and more prominence be given to the business features and less to entertainment. To do this it was suggested that a permanent place of meeting be selected, that a business-like method of defraying expenses be established, and that delegates and visitors pay for their own entertainment individually instead of permitting or expecting the local street railway interests to do so. This proposition will be acted upon at the first meeting of the executive committee and will have many warm supporters.

The plan proposed by Mr. Mailloux and advocated by several other members that the discussion of papers need not necessarily close with the meeting at which they were presented, will doubtless be adopted, and some provision made for continuing the consideration of certain topics from one meeting to another, as the subjects frequently gain importance with advancing years. For instance, the subject of steam turbines is every year acquiring new interest for street railway men, and although two papers have been presented before the Association there has been very little discussion by members in the meetings. Next year it is expected that some of the members will have practical experience with these machines in commercial operation, and the discussion of the relative merits of the turbine and reciprocating engine based upon the performance of the new machines will doubtless prove a valuable addition to the Association's record.

The collection of data on several subjects might be continued indefinitely and with good results. On the subject of handling freight and express on electric roads, for instance, information is wanted, as the excellent paper by Mr. McClary demonstrated. For several years this branch of the business has been receiving some attention, especially where interurban lines have been in operation, yet only comparatively few companies seem to be familiar with the possibilities of this branch. Just now interest in this topic is increasing, and it is apparent that this subject will be one of greatest importance by the time another convention is held. Therefore, in this and similar cases, it is urged, the discussion could with advantage be continued from year to year.

The complaint of the supply men will doubtless be heeded, as the practical street railway men are anxious to encourage the idea of holding good exhibitions. This has come to be regarded as an established feature of the annual gatherings, and the mechanical men will be particularly interested in securing a continuation of this part of the programme.

Form 14-1920

THE DENVER CITY TRAMWAY CO.

Record of Construction Work, Etc., for 190...

Table with columns: NAME OF LINE OR ACCOUNT, LOCATION, Description fully stated and character of work, Dollars, Cts.

FIG. 6.—NEW TRACK CONSTRUCTION

Form 15-1920

DEPARTMENT OF TRACK AND ROADWAY

The Denver City Tramway Co.

Estimate of Labor

For... Denver, Colo., 190...

Large table for estimating labor with columns: Quantity, DESCRIPTION OF WORK, Unit, Dollars, Cts.

By... Engineer

FIG. 7.—ESTIMATES FOR TRACK AND ROADWAY

Form 150

THE DENVER CITY TRAMWAY COMPANY.

FOREMAN AT CENTRAL LOOP:

Place banners or signs reading

on the number of cars and lines marked below, commencing at o'clock M., of day of 190... Take the same off at o'clock, of 190...

Table for banners with columns: NUMBER, LINES, NUMBERS OF CARS, CHECK OFF

FIG. 11.—ORDER FOR BANNERS

Superintendent.

Form 16a

The Denver City Tramway Company

Form 41. 1018-4-3-01

INSPECTOR'S REPORT

Date, 190... Time... M. Line... Car... Conductor... Motorman... Were conductor and motorman neat in appearance, and wearing badges?

Line... Time on... Street on... Street off... Time off... Car No... Cond's No... Total passgrs. carried... Fares registered... Free passengers... Bicycles... Policemen... Firemen... Mail Carriers... Sisters of Charity... Children under 6 years... Employes with badges... Employes with tools... Failed to register... Failed to collect... Short... No. children between 6 and 12 yrs... Was Cond. polite to passgrs.?

REMARKS (Here report any repairs needed on car, or violations of the rules by crew.)

FIGS. 8 AND 9.—INSPECTORS' REPORT BLANKS

Form 44

THE DENVER CITY TRAMWAY COMPANY.

Mr... Sup't... Division. Dear Sir: Please have... cars at... M., 190... for... Take party to... Collect \$... from... Date... SUPERINTENDENT.

THE DENVER CITY TRAMWAY COMPANY.

Denver, 190...

RECEIVED OF Conductor... Dollars, amount collected from... on Special Car No... this date. Car run from... to... DIVISION SUPERINTENDENT.

THE DENVER CITY TRAMWAY COMPANY.

Denver, 190...

RECEIVED OF... In payment for... cars run this day from... to... and return.

FIG. 10.—FORMS USED FOR CHARTERED CARS

Form 60: The Denver City Tramway Co. Includes sections for TRIP NO., TIME, CASH, and REGISTER.

FIG. 12.—TRAINMEN'S TRIP SHEET

The material is divided under seventy-six practical headings, which usually convey sufficient knowledge to make it unnecessary for any deeper details in cases where detailed statements are called for. This, of itself, is of great value where the management goes into detail so extensively as does the Denver City Tramway Company.

A price-list book is carried which is divided alphabetically into the seventy-six material headings, and shows all items contained in each account. The bills being worked up promptly enables this price list to be kept up to date on values.

Other forms used in this department include a daily report of scrap and second-hand material received, and is sent to the purchasing agent; a report to the auditor at the end of each month, and a blank used in taking the semi-annual inventory.

DETAIL CAR RECORD EXPENSE

Another interesting example of the Denver City Tramway Company's method of carrying out detailed expense accounts is that used in determining the cost of car equipments. On the time slip is shown a complete description of the work done. This slip is approved by the foreman and turned in to the timekeeper. The standard requisition blank is used, and on it must appear the car numbers for all material drawn at the shops. This blank and the division car house foreman's report of material used daily, which must also show car numbers, are both turned in to the storekeeper. Memorandum sheets are used for assembling material and labor from requisitions and time slips.

A loose-leaf record is used which secures a permanent description of the car. In connection with this form there is used one shown in Fig. 3, which has three main classifications or sub-divisions, i. e., maintenance of body, maintenance of trucks, electrical maintenance. This latter sheet is intended to run for one month, when it is removed and a summary taken off and transferred to the form in Fig. 4, which at the end of the year is ready for the annual statement. The line, "miscellaneous pro rata," is to cover small items, like bolts, screws, etc., that cannot be carried to car numbers, and is also used for credits of material recovered. This record enables the management to determine what each style of equipment costs and the cost per car-mile.

ENGINEERING DEPARTMENT

In the engineering department a comprehensive system has been worked out. When repairs are needed or work ordered a form is filled out by the superintendent, inspector or trouble man, giving the location and nature of trouble. This notice is given to a foreman or workman who is to do the job. He signs and returns it to the superintendent's office when the work is done, making note of what material was used and what job number it falls under. A time slip is then made out by the workman, showing a description of work done, and is approved by the foreman and turned in to the timekeeper.

In the line department a special requisition blank is made out in duplicate, showing where the material is used.

A time sheet is made out for the day, showing the names of the men, the nature of the work performed and the time consumed on each job. This is sent in to the engineer's office.

Fig. 5 is a form for daily record of electric-line construction, maintenance, etc., and shows the job number, location, the work done and the material used with costs.

On another form is kept a record of electric-line maintenance, divided into renewals and betterments and repairs and emergency work. This is carried out in the engineering department and turned in to the auditor.

In a similar manner a daily record of track repairs is made up on a form showing complete description of work and material used, including ties, joints and bonds.

A separate form, Fig. 6, is used for new track construction work. Estimates for the track and roadway department are made upon a form shown in Fig. 7.

The daily report blank for power house maintenance and operation includes records for steam and electric plant under maintenance, and wages, fuel, water, oil and waste, and miscellaneous under operation. The number of tons of coal and price per ton are also included. Another item is the output in kilowatt-hours and cost per kilowatt-hour. The average horse-power for 18 hours, the total horse-power-hours, cost per horse-power-hour, and pounds of coal per horse-power-hour are also entered, and all items are carried out in dollars and cents.

BLANKS USED IN TRAIN SUPERINTENDENT'S OFFICE

Blanks used in the office of the superintendent of train service are as follows:

Fig. 8 is used by the open inspectors of the trainmen, while Fig. 9 is used by the private inspectors who report on the conductors' work.

Fig. 10 is a form used for the special or chartered-car service and consists of the superintendent's order to the division superintendent, the latter's receipt to the conductor for the amounts collected for the use of the car, and the conductor's receipt given to the patron leasing the car. The tramway company does a large chartered-car business, and its facilities are such that it can have a special car ready for a party at the downtown loop within a few minutes from the time it is ordered.

The company also does a large business in carrying banners and signs on the cars. These banners are all placed by the foreman at the central loop, and the order blank shown in Fig. 11 is used to specify the lines, the car numbers and the number of banners.

TRAINMEN'S TRIP SHEET

The trainmen on the Denver system credit themselves at the end of each run, and the trip sheet, Fig. 12, is used by the conductor. Besides giving the necessary data concerning passengers carried, this slip must show the time the men run, the blocks of transfers used, records of registers and receipts of motorman and conductor for wages received.

The trainmen's wages are regulated according to period of service, and are as follows: First year, 20 cents per hour; second year, 22½ cents per hour; third, fourth and fifth years, 23½ cents per hour; sixth and succeeding years, 25 cents per hour. In order to assist the men in computing their wages a table is printed which shows the amount of wage for any of the four scales and for any time from 5 minutes up to 12 hours and 55 minutes. Under 2 minutes counts as nothing, and 2 minutes or over is counted as 5 minutes, so the tables show the wages for every 5 minutes of time. This table is printed on heavy cardboard in convenient size for carrying in the vest pocket when folded. Some of the men have memorized this table and seldom have to refer to it in computing their day's wages.

AUDITOR'S REPORTS

In the auditor's department of the tramway company the standard accounting system is used. All bills are paid by duplicate voucher, the original bill being kept by the auditor, and the distribution made to the proper department and expense account in spaces provided on the back. The voucher proper is printed on colored paper, and is honored for payment as a sight draft at the company's bank when properly signed and endorsed.

The chief task of the auditing department is the compilation of a daily record of operating expense and the daily balancing of the company's books. In order to do this the superintendents of all departments, as was shown in the case of the storekeeper's and engineer's departments, send in daily reports of their operating expenses. These reports are classified and carried out on a form (Fig. 13), and the items of general expense are added, the labor and material accounts being kept separate but combined in the "total" for the day and for all the days of the current month. The figures for the corresponding days of the previous year are also given in another column for com-

parison. Maintenance of way and structure and maintenance of equipment are added for the total maintenance, and the

THE DENVER CITY TRAMWAY COMPANY.

DAILY RECORD OF OPERATING EXPENSE, ETC., FOR 1903

ACC. No.	CLASSIFICATION	FOR CURRENT DAY			TOTAL FOR DAYS OF CURRENT MONTH	CORRESPONDING DATE OF PREVIOUS YEAR
		LABOR	MATERIAL	TOTAL		
MAINTENANCE OF WAY AND STRUCTURE						
1	Track and Roadway					
2	Electric Line					
3	Buildings and Fixtures					
	TOTAL					
MAINTENANCE OF EQUIPMENT						
4	Power Plant Steam					
5	Electric Plant Equipment					
6	Cars					
7	Electric Equipment of Cars					
8	Miscellaneous Equipment					
9	Miscellaneous					
	TOTAL					
TOTAL MAINTENANCE						
10	Power Plant Wages					
11	Fuel for Power					
12	Water for Power					
13	Lubricate and Waste for Power Plants					
14	Misc. Supplies and Expenses of Power Plants					
	TOTAL					
CAR SERVICE						
15	Superintendence of Transportation					
16	Wages of Conductors and Motormen					
17	Stationery and Printing					
18	Wages of Other Car Service Employees					
19	Wages of Car House Employees					
20	Car Service Supplies					
21	Miscellaneous Car Service Expenses					
22	Cleaning and Sanding Track					
23	Honoraria of Saver and Fee					
	TOTAL					
TOTAL TRANSPORTATION						
GENERAL EXPENSE						
24	Salaries of General Officers					
25	Salaries of Clerks					
26	Stationery and Printing					
27	Miscellaneous Office Expenses					
28	Store Room Expenses					
29	Travel Expenses					
30	Advertising and Attractions					
31	Miscellaneous General Expenses					
32	Damages					
33	Legal Expenses Incident to Damages					
34	Other Legal Expenses					
35	Rents					
36	Insurance					
	TOTAL					
TOTAL OPERATING EXPENSE						
TOTAL FIXED CHARGES						
SURPLUS						
TOTAL EARNINGS						

FIG. 13.—DAILY RECORD OF OPERATING EXPENSE

operation of power plant and car service are added for the total transportation. The total operating expense is brought down, total fixed charges and surplus added and summed up to give

The Denver City Tramway Co.

15, is made up, showing a comparative statement of operating expenses for the current month, for the year to date and for the corresponding periods of the preceding year. This sheet also contains a statement of mileage, passengers, car transfers, etc., a comparative statement for the month of earnings and expenses (both fixed and operating), and a statement of the earnings and mileage by lines for the month. From this sheet the annual statement is easily and quickly obtained.

Fig. 16 is a reproduction of a blank made up to show the daily

THE DENVER CITY TRAMWAY COMPANY
DAILY APPROXIMATE STATEMENT OF PASSENGER RECEIPTS

1903

COMPARING EACH DAY OF THE WEEK WITH THE SAME DAY OF THE CORRESPONDING WEEK LAST YEAR

	1903	1902	INCREASE	DECREASE
Total Passenger Earnings for.....				
Days of Current Month as compared with same days of last year				

FIG. 16.—DAILY PASSENGER RECEIPTS

statement of passenger receipts with increase or decrease over the preceding year.

Weekly comparative statements are also made showing the mileage and earnings for the several lines and also for each division.

AUDITOR'S MONTHLY LETTER

For the benefit of the president and the vice-president and general manager of the company, the auditor gets out what is called a "monthly letter," on the 10th or 11th of each month. This letter consists of eighteen to twenty typewritten pages, and contains a wealth of information on the operation of the several departments. This feature was original with Mr. Hogarth, and he varies the nature of contents from month to month as he sees fit. Some of the letters examined contain accounts of the chartered car and banner business, important new track and

Balance Sheet 190

CONSTRUCTION ACCOUNTS	Track and Overhead Construction.				
	Power Plant Equipment				
	Cars and Attachments				
	Buildings and Fixtures				
	Electric Equipment of Cars				
	Real Estate				
	Tools and Appliances				
	Office Furniture and Fixtures				
	Miscellaneous Equipment				
	Securities				
CASH ASSETS	Cash				
	Mercantile Trust Co. N. Y.				
	Central Trust Co. of N. Y.				
	First National Bank, Denver.				
MATERIAL ASSETS	Materials and Stores				
	Fuel Stock				
AFFORTIONMENT ACCOUNTS	Damages				
	Insurance - Fire				
	" " Accident				
	Licenses on Cars				
	Water				
	Telephone Service				
	Tramway				
INDIVIDUALS AND COMPANIES	Miscellaneous Accounts Receivable				
	U. S. Government - P. O. Department				
	Denver Realty Co.				
	South Denver Amalgam Pipe				
Capital Stock					5 000 000 00
	Denver Tramway Co. 5 per cent. Bonds, due July 1, 1908	4 980 000	00		
	Denver Tramway Co. 5 " " " " Jan. 1, 1910.	1 219 000	00		
	Metropolitan Railway Co. 5 " " " " Jan. 1, 1911.	953 000	00		
	Denver City Tramway Co. 5 " " " " Apr. 1, 1910.	2 000 000	00		
	Denver Consolidated Tramway Co. 5 " " " " Oct. 1, 1913.	1 167 000	00	0 837 000 00	
	City Guarantee (Paving Bonds), 6 per cent. Due Feb. 1, 1901, Feb. 1, 1902, Feb. 1, 1903.				
ACCRUED INTEREST	Denver Tramway Co. and Met. Ry. Co. 5 per cent. Bonds, interest due to Jan. 1,				
	Denver Consolidated Tramway Co. 5 " " " " Apr. 1st 1911.				
	Denver City Tramway Co. 5 " " " " Apr. 1st 1911.				
	City Guarantee (Paving Bonds) 6 " " " " Oct. 1,				
Deposit Fees (Conductors and Motormen)					
Hospital Fund					
Outstanding Tickets (Ticket Sales)					
Surplus Account					
ACCOUNTS PAYABLE	Vouchers—Utility Bills of Month ending				
	Unpaid Wages				
TAXES ACCRUED	See Item No. 1				

FIG. 14.—DAILY BALANCE SHEET

the total earnings for the day for the current month and corresponding period of the previous year.

The daily balance sheet with different accounts, assets and liabilities is shown in Fig. 14. For the month the sheet, Fig.

line work completed or begun during the month, data concerning power house operation, analysis of increase or decrease of passenger earnings on certain lines and on the whole system, discussion of special days of large traffic, recommendations as

THE DENVER CITY TRAMWAY COMPANY

Comparative Statement of Operating Expenses for the Month of _____ 190 . Compared with 190 .

Acc't No.	CLASSIFICATION	CURRENT MONTH				JANUARY 1ST TO DATE (MONTHS)			
		190		190		190		190	
		AMOUNT	Per Mile	AMOUNT	Per Mile	AMOUNT	Per Mile	AMOUNT	Per Mile
MAINTENANCE OF WAY AND STRUCTURE									
1	TRACK AND ROADWAY								
2	ELECTRIC LINE								
3	BUILDINGS AND FIXTURES								
	TOTAL								
MAINTENANCE OF EQUIPMENT									
4	POWER PLANT STEAM								
5	ELECTRIC PLANT EQUIPMENT								
6	CARS								
7	ELECTRIC EQUIPMENT OF CARS								
8	MISCELLANEOUS EQUIPMENT								
9	MISCELLANEOUS								
	TOTAL								
OPERATION OF POWER PLANT									
10	POWER PLANT WAGES								
11	FUEL FOR POWER								
12	WATER FOR POWER								
13	LUBRICANTS AND WASTE FOR POWER PLANTS								
14	MISCELLANEOUS SUPPLIES AND EXPENSES OF POWER PLANTS								
	TOTAL								
CAR SERVICE									
16	SUPERINTENDENCE OF TRANSPORTATION								
17	WAGES OF CONDUCTORS AND MOTORMEN								
18	STATIONERY AND PRINTING								
19	WAGES OF OTHER CAR SERVICE EMPLOYEES								
20	OF CAR HOUSE EMPLOYEES								
21	CAR SERVICE SUPPLIES								
22	MISCELLANEOUS CAR SERVICE EXPENSES								
23	CLEANING AND SANDING TRACK								
24	REMOVAL OF SNOW AND ICE								
	TOTAL								
GENERAL EXPENSE									
25	SALARIES OF GENERAL OFFICERS								
26	CLERKS								
27	STATIONERY AND PRINTING								
28	MISCELLANEOUS OFFICE EXPENSES								
29	STORE ROOM EXPENSES								
30	STABLE EXPENSES								
31	ADVERTISING AND ATTRACTIONS								
32	MISCELLANEOUS GENERAL EXPENSES								
33	DAMAGES								
34	LEGAL EXPENSES INCIDENT TO DAMAGES								
35	OTHER LEGAL EXPENSES								
36	RENTS								
38	INSURANCE								
	TOTAL								
	TOTAL OPERATING EXPENSE								

COMPARATIVE STATEMENT OF EARNINGS AND EXPENSES

(Both Fixed and Operating) for Month of _____ 190 .

	CURRENT MONTH				JANUARY 1ST TO DATE (MONTHS)			
	190		190		190		190	
	AMOUNT	PERCENTAGE	AMOUNT	PERCENTAGE	AMOUNT	PERCENTAGE	AMOUNT	PERCENTAGE
PASSENGER EARNINGS								
ADVERTISING								
CHARTERED CARS								
MAILS								
OTHER								
TOTAL EARNINGS								
OPERATION								
Maintenance of Way and Structure								
" " Equipment								
Operation of Power Plants								
Car Service								
General Expense								
TOTAL OPERATING EXPENSE								
NET EARNINGS FROM OPERATION								
DEDUCTIONS FROM INCOME								
Taxes Apportioned								
Interest, Discount and Exchange								
Int. on Funded Debt, Amortized								
" Floating "								
TOTAL FIXED CHARGES								
SURPLUS								
Less Dividends Paid								
NET SURPLUS								

Per Cent. of Earnings used in Operation Per Cent. Per Cent. Per Cent. Per Cent. Per Cent. Per Cent.

AUDITOR'S OFFICE, DENVER, COLO.

AUDITOR.

EARNINGS AND MILEAGE BY LINES,

Month of _____ 190 .

LINE	EARNINGS			MILEAGE
	TOTAL	PER DAY	PER MILE	MOTOR
BROADWAY				
COLFAX AVE.				
LAWRENCE ST.				
STOUT ST.				
23RD AVE.				
15TH "				
SOUTH TREMONT				
11TH AVE.				
HARMAN				
WEST 23RD AVE.				
BERKELEY				
WEST 20TH AVE.				
ROCKY MTN.				
PARK HILL				
MONTCLAIR				
LARIMER ST.				
WELTON ST.				
11TH ST.				
11TH AVE.				
WEST DENVER				
ARGO				
GOSS ST.				
MYRTLE HILL				
WEST 38TH AVE.				
ARVADA				
TOTAL FOR MONTH				
TOTAL "				
INCREASE OR DECREASE				

STATEMENT OF MILEAGE, PASSENGERS, CARS, TRANSFERS, ETC.

Month of _____ and Year to Date, 190 . Compared with 190 .

CLASSIFICATION	CURRENT MONTH				JANUARY 1ST TO DATE (MONTHS)		
	190		190		190		
	TOTAL PER MONTH	AV'G PER DAY	TOTAL PER MONTH	AV'G PER DAY	190	190	INCREASE OR DECREASE
MOTOR MILEAGE							
TOTAL CARS RUN							
PASSENGERS CARRIED FOR REVENUE							
" " FREE							
TRANSFERS RECEIVED							
TOTAL PASSENGERS CARRIED							
PER CENT OF OPERATING EXPENSES TO EARNINGS							
AVERAGE EARNINGS PER DAY							
" " OPERATING EXPENSES PER DAY							
COST PER MOTOR MILE							
PASSENGERS CARRIED PER CAR PER DAY							
PER CENT TRANSFERS RECEIVED							

FIG. 15.—COMPARATIVE STATEMENT

to what extensions or improvements seem advisable from the auditor's point of view for an increase in net earnings, discussion of results produced by opening up some new line, making an improvement or introducing any reform or benefit for the employees, standing of the hospital and sick benefit funds, report on the legal expenses for the month, etc. One of the most important parts of the letter each month is a page devoted to miscellaneous statistics containing data as to passenger earnings, operating expenses, car mileage, power house operation, etc. A sample page for last May is shown herewith:

May, 1903. Miscellaneous Statistics:	May, 1903	May, 1902
Passengers per car per day.....		
Per cent passengers riding on transfers.....		
Average passengers carried per trip.....		
Gross earnings per motor-mile, cents.....		
Operating expense per motor-mile, including construction and extraordinary items, cents.....		
Operating expense per motor-mile, not including construction and extraordinary, cents.....		
Gross earnings per car-hour.....		
Operating expense per car-hour, including construction and extraordinary items.....		
Operating expense per car-hour, not including construction and extraordinary.....		
Per cent earnings used in operation, including construction and extraordinary.....		
Per cent earnings used in operation, not including construction and extraordinary.....		
Average wages of trainmen per hour, cents.....		
Per cent of passenger earnings retained by trainmen as wages.....		
Average earnings per car per day.....		
Passengers carried free, employees.....		
Passengers carried free, complimentary.....		
Average earnings per revenue passenger, cents.....		
Average earnings per passenger, revenue and non-revenue, cents.....		
Average earnings per passenger, revenue, free and transfer, cents.....		
Average distance each one-way trip, miles.....		
Average speed per hour, miles.....		
Earnings per mile of track.....		
Kilowatt output hours, two plants.....		
Kilowatt output hours, six plants.....		
Cost per kilowatt-hour, cents.....		
Average kilowatt-hours per car per day.....		
Current consumed per car-mile, kilowatt-hours.....		
Per cent of earnings set aside for taxes.....		
Per cent of earnings set aside for interest.....		
Per cent earnings paid out, damage claims.....		
Number car-hours, two-motor cars.....		
Number car-hours, four-motor cars.....		
Gross earnings per car-hour, Denver & Northwestern....		
Gross earnings per mile of track, Denver & Northwestern.....		
Per cent earnings used in operation, Denver & Northwestern.....		

The compilation of this monthly letter is necessarily something of a task, but it forms a very valuable record for the general manager or president to have constantly on file. By referring to it the exact status of any part of the company's system is instantly determined, without summoning heads of departments for consultation. Again, any recommendations from the officials reporting to the auditor find it an excellent path for reaching the management, and the advantage of being considered from the viewpoint of the auditing department, which is a most vital part of a traction system. In the preparation of this monthly letter and the daily reports Mr. Hogarth has followed the plan adopted by many of the large Eastern steam railroad corporations. It certainly is valuable for the traction officials who desire to keep constantly informed as to the operating expenses and earnings of the system.

Passenger traffic from Battle Creek to Detroit is said to be as heavy over the interurban lines now as over the railroads. In less than one month 2500 tickets have been sold at Jackson for Detroit on the Hawks-Angus line to which the Jackson-Battle Creek line contributes.

MULTIPLE UNIT SYSTEM ADOPTED FOR THE NORTH-WESTERN ELEVATED

The Northwestern Elevated Railroad Company, of Chicago, is now changing its motor-car equipment from the plan of running a single motor car at the head of a train to a mixed multiple-unit system. The change is being made by E. C. Noe, who was appointed general superintendent the first of this year.

No additional motors will be purchased with which to make this change. The present motor cars, purchased before Mr. Noe took the management of the road, are equipped with four General Electric 55-motors of 160 hp each. It is proposed to take two motors off each of the present motor cars and place them under some new cars which are now under process of construction by the St. Louis Car Company. The plan of operation is to have five-car trains during the rush hours and three-car trains during the middle of the day.

At present, with the heavy motor cars equipped with four motors, it is necessary to run these motor cars underloaded during the greater part of the day. With the mixed multiple-unit system which has been adopted the first and fourth cars of each five-car train will be motor cars. When three-car trains are being operated only the first car will be a motor car, and one motor and one trail car will be disconnected from the rear of the train. The arrangement is a very flexible one, and is well adapted to the conditions of service. While there is thus greater motor capacity per ton of train with the five-car train than with the three-car train, this extra motor capacity is desirable with the five-car train, because the five-car trains are operated during the rush hours, when the greatest motor capacity is necessary, when the stops are longer, the rates of acceleration higher and the passenger loads heavier.

In connection with the adoption of the multiple-unit system loops will be provided for all trains at the outer terminals of the road, which will result in enough saving in the cost of switching to pay for these loops in a short time. The present terminus is at Wilson Avenue. The line will be extended to Ravenswood. The local trains will run only as far as Wilson Avenue, where a loop will be built at the surface, underneath the express tracks. The express tracks will continue straight over this terminus on the elevated structure.

The standard gearing which this company has adopted gives a maximum speed of about 27 m. p. h. Some of the present gears give 33 m. p. h., but this is considered too high to give the greatest efficiency with the schedules feasible on this road.

In the United States there are several women who are officers and directors of electric railway companies, and who are active in the management of the property of the companies in which they are interested. One system in Indiana is managed by a woman. Miss Mary Hook is a director of the Los Angeles Traction Company and acts as its secretary. At Long Island City, N. Y., however, there is a young woman, Miss Ida M. Tritt, who probably has the distinction of being the foremost street railway woman in America. Miss Tritt is secretary and treasurer of the New York & Queens County Railway Company, which operates 82 miles of electric railway in Queens Borough. Miss Tritt was born at Carlisle, Pa., and after fitting herself for school teaching she took a course in stenography, which she was convinced would open up to her a field much more lucrative. After acting for some time as stenographer and bookkeeper for a large manufacturing company near her home, a friend of her father offered her the position of private secretary to him in the management of the Union Traction Company, of Philadelphia. So well did she acquit herself in this position that when this gentleman became interested in the management of the New York & Queens County Railway Company he tendered Miss Tritt the position which she now holds.

WESTINGHOUSE TURRET SYSTEM OF ELECTRO-PNEUMATIC CONTROL

Some particulars were published in the issue of Sept. 5 of the Westinghouse turret system of electro-pneumatic control, exhibited at the Saratoga Convention by the Westinghouse Air Brake Company, by whom it is manufactured. The system is radically different from the company's former electro-pneumatic system of control, and has been worked out during the last nine months by the engineers of the Westinghouse Air Brake Company, and the Westinghouse Electric & Manufacturing Company, under the personal direction of Mr. George Westinghouse himself.

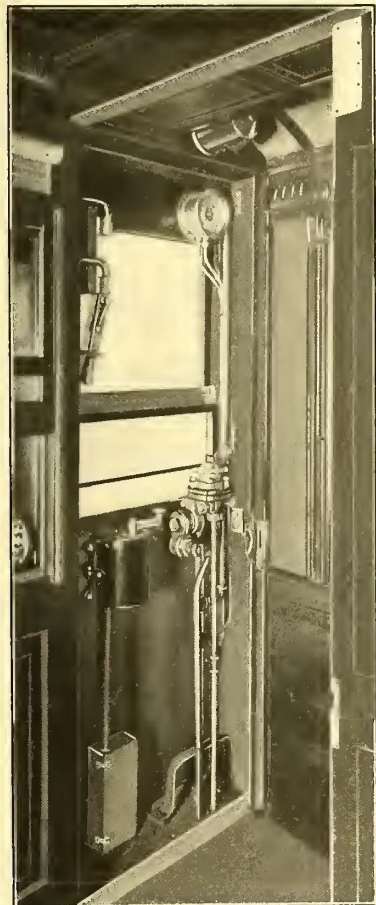


FIG. 1.—MOTORMAN'S CAB, SHOWING MASTER CONTROLLER, JUNCTION BOX AND AIR-BRAKE OPERATING VALVE

interruption of the current due to the blowing of a fuse, to bad third-rail contact, or to any other cause; therefore, the motors can be reversed and used for braking at any time if necessary, even if the rail is dead.

Fig. 1 illustrates the interior of a motorman's cab on one of the Manhattan cars. As will be seen, the master controller and air brake operating valve are mounted on the inside end panel of the car, so that the door of the motorman's compartment, when the apparatus is not in use, can be shut against the end panel, completely enclosing the controlling apparatus. The master controller occupies only a very small amount of room, its outside dimensions being: Height, 7½ ins.; width, 6 ins., and depth, 4½ ins. When the controller is in use the door, as in the regular Manhattan equipment, is swung parallel to the side of the car, providing a closed compartment for the motorman. The master controller is mounted so that the controlling handle is 34 ins. from the floor.

The interior of the master controller is illustrated in Fig. 3.

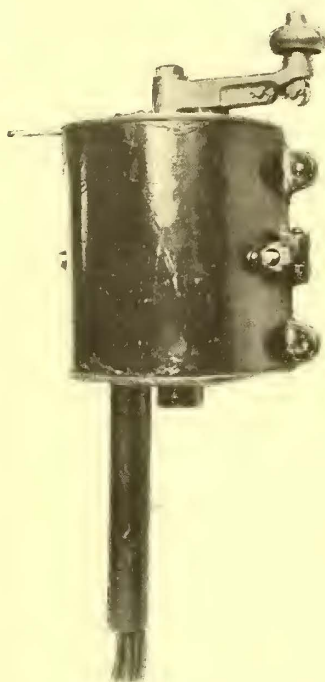


FIG. 2.—MASTER CONTROLLER, WITH CASE CLOSED

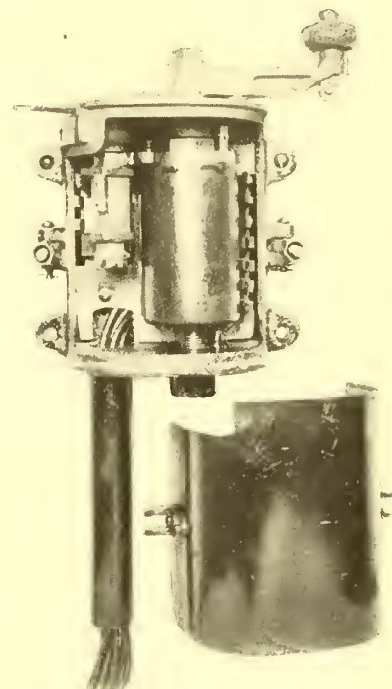


FIG. 3.—MASTER CONTROLLER, WITH CASE OPEN

It has been known in railway circles for some time that the Westinghouse Companies were planning to place on the market a train control system of an improved type, to be known as the "turret" system, but no details of construction were made public until the system, as a complete whole, was exhibited at the Saratoga Convention. The control is now being installed on several cars of the Manhattan division of the Interborough Rapid Transit Railway Company, and a contract has just been closed with the Brooklyn Rapid Transit Company for 264 control equipments of the turret type.

As briefly described in the issue of Sept. 5, the main current connections are made by a series of "unit switches," or breakers, grouped in a circular case, or "turret," underneath the car, the movement of the individual switches or breakers being secured by air power, controlled by magnets from a battery circuit through a master controller.

As the actuating mechanism is not directly connected to the main source of electrical energy, the connections for the low voltage control circuits are the only ones which have to be established between the cars of the train. Seven wires only are required in the train line battery cable. Another advantage claimed for the use of the separate electrical circuit is that the controlling apparatus can be worked while the main current is cut-off. This makes the control independent of any momentary

As only 14 volts are used in the battery or controller circuit, the rotating cylinder of the master controller is of wood, with copper plates, and copper spring fingers. The reverse cylinder is

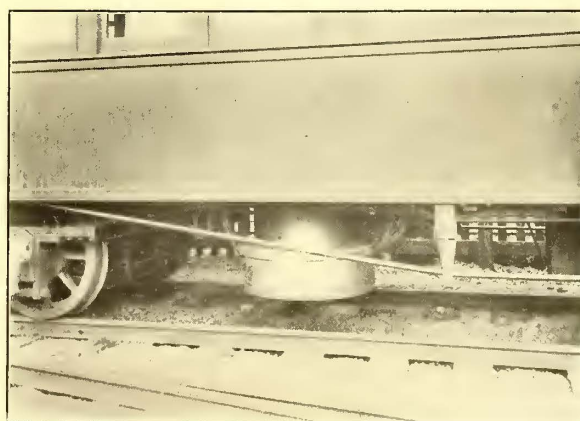


FIG. 4.—SIDE VIEW OF CAR, SHOWING TURRET

interlocked with the controller cylinder by a simple device, which prevents the movement of the former unless the latter is at the "off" position, or the latter, unless the reverse cylinder

is at either the forward or backward step. The master controller handle is provided with a spring return, making it a "dead man's handle." There is also a device by which if the motorman lifts his hand at any time from the controller handle the brakes are automatically applied, unless the reverse handle has first been turned to center. By a corresponding device, if the brakes are applied while the power is on, the power is automatically cut off. The first re-

paratus are led. This box measures 13½ ins. high x 5 ins. wide x 3 ins. deep, and is shown open in the engraving. The master controller, which weighs only 16 lbs., is so mounted on its support that it can be easily detached from it and removed.

The batteries for operating the electro-pneumatic switches of the controlling apparatus are carried under the car in a box 25 ins. x 16½ ins. x 16½ ins., and weigh, complete, with the box, 300 lbs. They consist of two sets of seven cells each of the Electric Storage Battery Company's type D-5. Two sets are used to insure absolute continuity of service, and each is in series with a set of lamps for charging by the line current. Either is of sufficient capacity to supply all the current required for a day's service, and to receive a sufficient charge during the night while the lights are on.

No power wires are carried above the floor, except to one

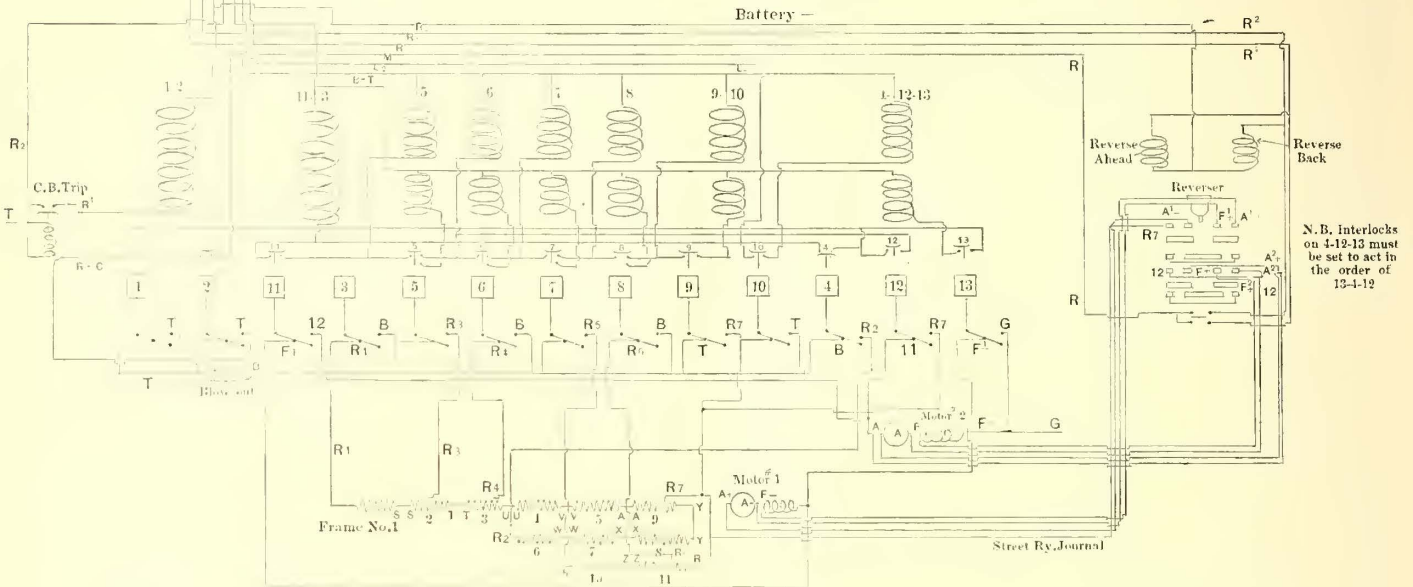


FIG. 5.—SCHEMATIC DIAGRAM OF CONNECTIONS OF TURRET SYSTEM OF ELECTRO-PNEUMATIC CONTROL

sult is secured by a connection between the spring return handle and the air brake system, and the second by a connection between the air brake system and a small air cylinder, whose piston opens the battery circuit.

main switch, which is located in one of the motormen's compartments. There is also no apparatus above the car, except the master controller and battery switches.

Fig. 4 gives a view of the side of the Manhattan car, equipped

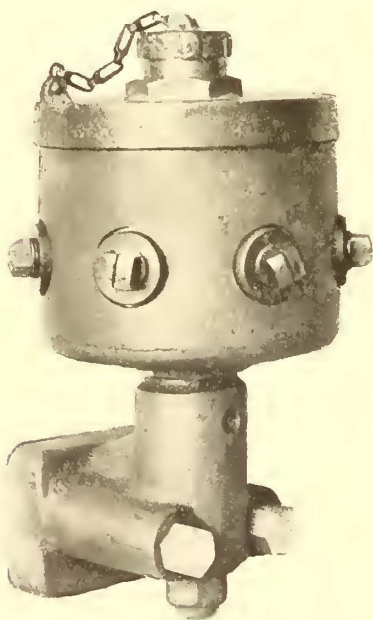


FIG. 6.—ELECTRO-PNEUMATIC VALVE

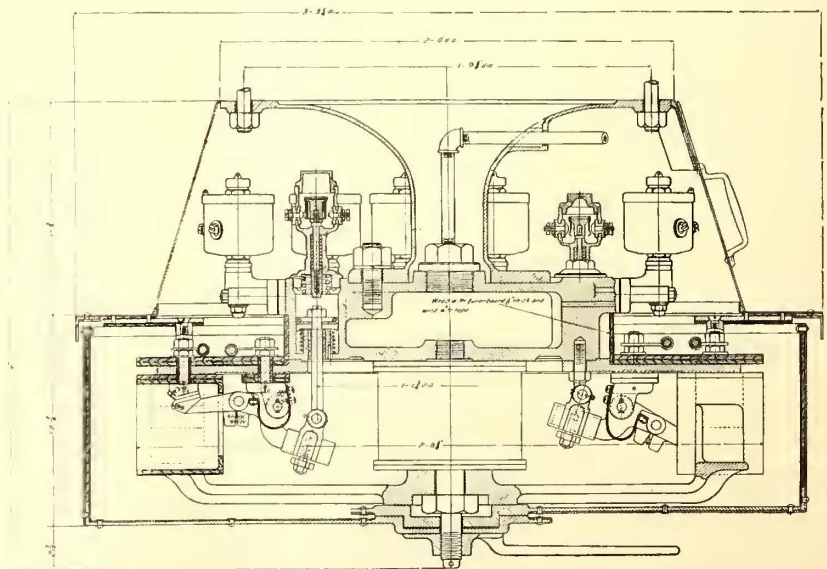


FIG. 7.—CROSS SECTION OF TURRET CONTROLLER

Just below the master controller, as will be seen from Fig. 1, is a junction box, to which the terminals of the seven battery wires used in operating the turret controller and other car ap-

with the system, and Fig. 5 a diagram of the connections. The reverse switch, Fig. 9, is located as near the motor truck as possible to reduce the length of wire. It is of the

usual type, with copper contacts, but is operated by two air cylinders, controlled by electro-pneumatic valves, worked from the reverse cylinder of the master controller. The electro-pneumatic valves are illustrated in Fig. 6, and are similar to those used in the drum electro-pneumatic train-control system. Adjoining the reverse switch is the limit switch, shown in Fig. 8, for governing the acceleration. These two switches are usually mounted on the opposite side of the car from the resistance, while the turret controller is located in the center of the car.

The turret control is made up of thirteen unit switches, or breakers, arranged radially around an air reservoir, and inclosed in a cylindrical casing. Figs. 11 and 12 show the turret controller open, Fig. 13 the turret closed, and Fig. 7 a section of the turret. The individual switches are operated by pneumatic pistons, controlled by electro-pneumatic valves, Fig. 6, and operating against a spring pressure of about 70 lbs. This arrangement gives a very positive movement to the breakers and permits the adoption of any length of break which may be found necessary satisfactorily to prevent arcing. A cogent reason for the use of air pressure operating against a spring to perform this office is that being freed from the limitations of electromagnetic operation all possibility of

the air to the different pneumatic cylinders for the individual switches is supplied. These cylinders are drilled in the reservoir casting, so that no piping between them and the reservoir

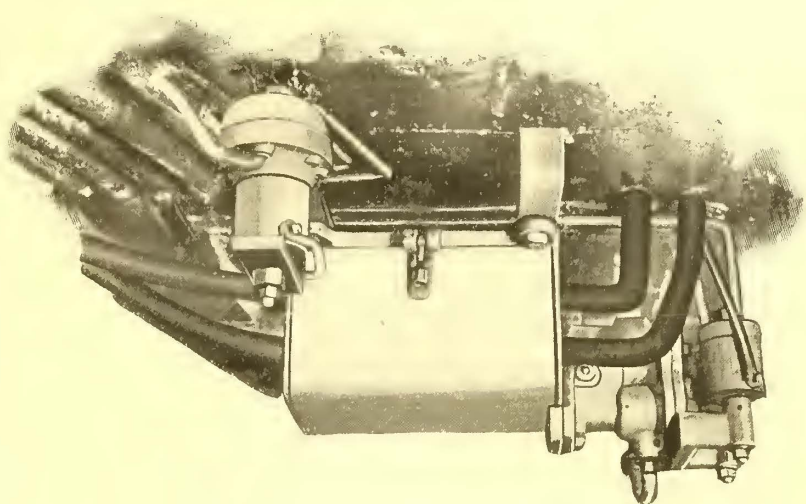


FIG. 8.—LIMIT SWITCH AND REVERSER

is required. The thirteen unit switches, or breakers, are arranged radially around the turret, and have one common blow-out coil, which is located at the center. The arms of the spider

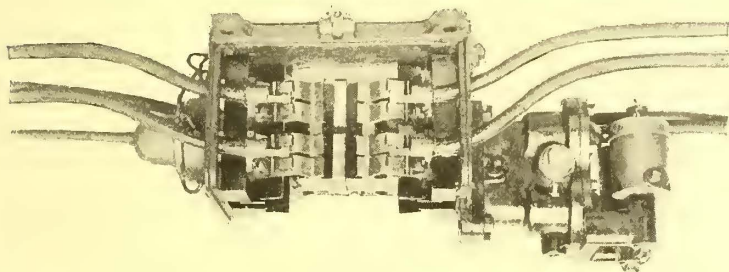


FIG. 9.—ELECTRO-PNEUMATIC REVERSER, WITH CASE OPEN

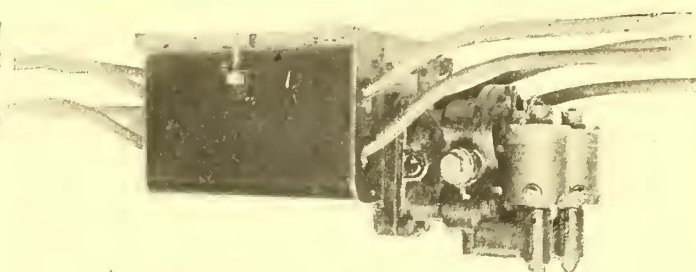
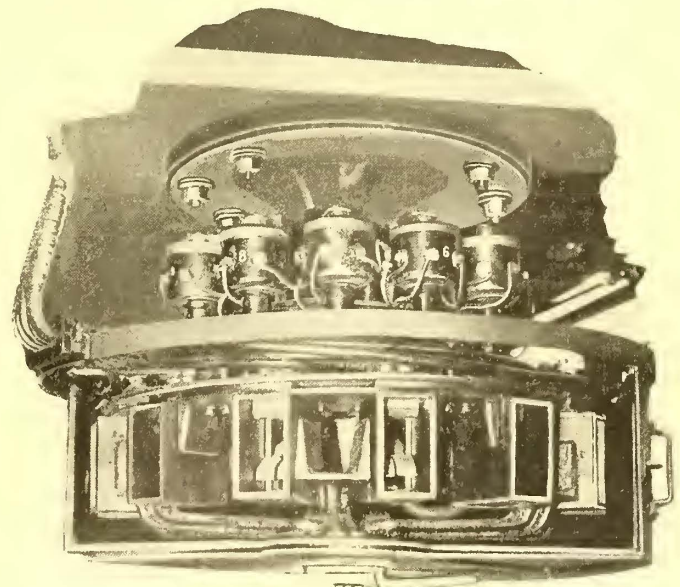
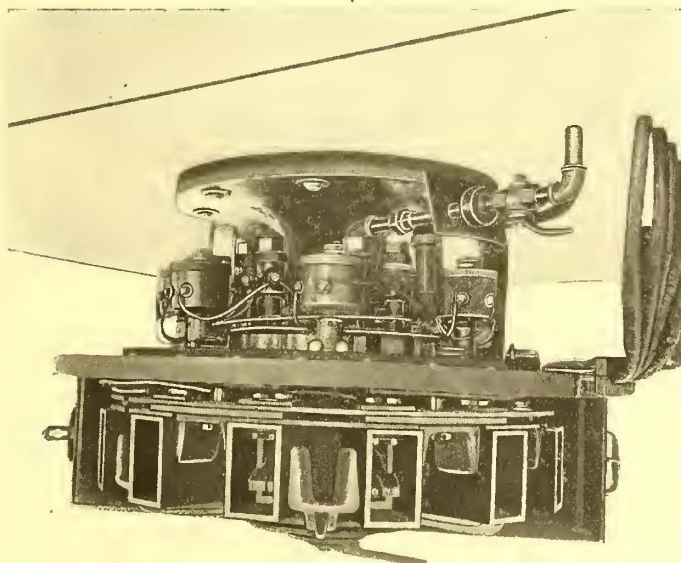


FIG. 10.—ELECTRO-PNEUMATIC REVERSER, WITH CASE CLOSED

the welding or sticking of the contact surfaces is eliminated. As an additional precaution the switch finger levers are not rigid but are flexible, so that as they are drawn up by pneumatic pressure, and again as they are released by spring pressure,

supporting the individual switches form the pole pieces for the blow-out, and as the magnetic field is horizontal, the direction of current in the contactors is arranged so that the arc is al-



FIGS. 11 AND 12.—DIFFERENT SIDES OF THE TURRET CONTROLLER, WITH CASE OPEN

there is a slight rubbing of the contact surfaces at the moment of engagement or disengagement which would tend to shear off any welding of the surfaces.

At the center of the turret is an air reservoir, from which

ways blown out radially. As several of the switches work together, only eight pneumatic cylinders and controlling valves are required for the thirteen switches.

From this preliminary description of the apparatus employed

the connections of the system, as shown in Fig. 5, will now be understood.

The first step on the master controller throws the reverser. The circuit then closed, actuates the circuit breaker relay, which controls the two pneumatic pistons, 1 and 2, closing the circuit breaker.

The second step on the master controller places all the motors

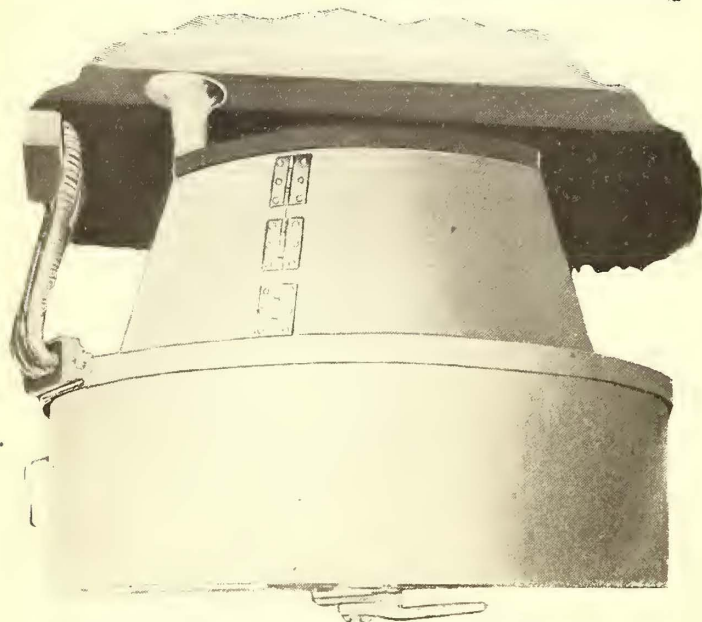


FIG. 13.—TURRET CONTROLLER, WITH CASE CLOSED

in series, by actuating the pneumatic cylinders 11 and 3, which close the series connection and also the connection through rheostat R-1.

The third step is that which cuts out the resistances. This is done by closing the circuit through the limit switch, and also that through coil No. 5. The action of switch No. 5, in closing, is to establish a circuit through No. 6; when No. 6 closes a circuit is established through No. 7, and so on up to No. 10, or the full series, thus gradually cutting out the resistances. As each piston drops in closing its switch, it also closes a "holding connection," shown directly above each piston, which cuts out the limit switch coil. This prevents the switches, after they have once closed, from opening when the limit acts. The limit simply prevents the next switch from picking up.

The fourth position is that of the motors in parallel. This is accomplished by means of the solenoid 4, 12 and 13, which actuates the switches of the same numbers. When these switches start to close they open the circuit on switches 3 and 11, and as soon as they are fully closed they establish a circuit through the holding coil. The current then starts to pick up the resistance coils, controlled by switches 6, 7, 8 and 9. No. 6 being the first resistance used in the multiple position.

The circuit breaker trip, indicated at the extreme left of the diagram, is actuated by the main circuit, and is intended to interlock the circuit breaker, so that in case it opens while the power switch is closed the breaker can not be reset until the power switch has again been opened.

The amount of wiring required by the system is very small. All wires are run in electrobestos conduit, which insures a thorough fireproof construction.

The air for operating the pneumatic switches is taken from the main train line, and is first conducted to an auxiliary reservoir through a feed valve, in order to insure uniform pressure, and thence into the reservoir, already described, in the center of the turret. The auxiliary reservoir is also provided with a check valve, so that it will retain sufficient air to operate the system in case the main supply should fail.

Although the system described and illustrated is that applied to one car only, it is easy to see that any number of motor

cars can be operated from one master controller by conducting the battery connections from the master controller to any number of turret controllers mounted on any number of motor cars. The number of battery wires required for the train cable is only 7, and as the train cable carries only 14 volts, there are no high voltage wires on the trail cars, and no high voltage couplings at any point.

The weight of the complete apparatus used per car on the Manhattan equipment is as follows:

	Pounds
Turret controller.....	695
Reverse switch.....	118
Resistances	490
Circuit-breaker relay.....	39
Storage battery.....	300
Three junction boxes.....	36
Supplementary reservoir.....	45
Two master controllers.....	39
Storage batteries, fourteen cells.....	202
Four, seven-point, receptacles.....	32
One reducing valve.....	15
Total	1711

CORRESPONDENCE

DENVER HOSE BRIDGE

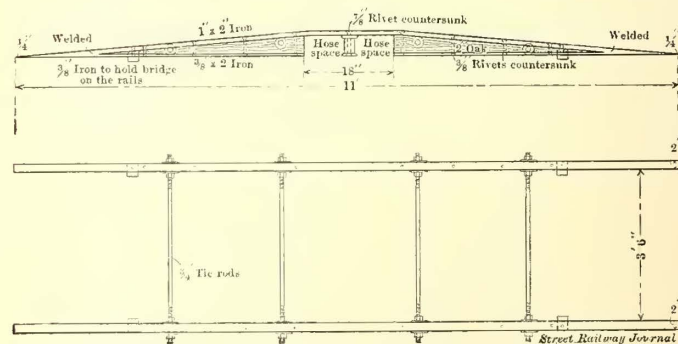
THE DENVER CITY TRAMWAY COMPANY

Denver, Col., Aug. 25, 1903.

EDITORS STREET RAILWAY JOURNAL:

As a matter of general interest and because of inquiries for information concerning a simple device in the form of a "hose bridge," which has been in use on our system for the last three years, I present herewith a plan and section of the device together with a description of its construction and application.

During the year 1900, after having suffered from very serious delays to our traffic, on account of numerous lines of fire hose stretched across our tracks, we began experimenting and finally constructed the device shown in the accompanying plan and elevation. The bridge has given us perfect satisfaction ever since, and has kept our cars moving on even headway many times when they must otherwise have been stopped. We have a wagon fitted up for the special purpose of carrying four of these hose bridges, which are kept at our principal wrecking station in the central loop. Our office is



ELEVATION AND PLAN OF HOSE BRIDGE

connected with the fire alarm signal system of the city. If the alarm shows that there is a fire in a locality where the hose would be likely to be laid across our tracks, and within a reasonable distance from the center of the city, the dispatcher notifies by telephone the men of the emergency crew, who hitch one of the wreck teams to the hose-bridge wagon, and away they go to the fire, often arriving there as soon as the fire department. Two men easily handle one of the bridges, either in putting it on or taking it off the wagon. The space under a bridge will accommodate from one to four lines of 4-in. hose.

The bridge is laid on the track, the clamps fitting the rail, and the line is open for traffic. When approaching a bridge the car slows down to about 2 m. p. h., and passes over at about the same speed. While the bridge is not at all cumbersome, it holds our heaviest cars, and we have never yet had a car leave the rail. We have had cars run over a set of these bridges on one line for over ten hours, without even having a man there to direct their movements. No patents have been applied for, and any company is free to make use of the device. It has received the approval of the chief of Denver's fire department, and has earned dollars for the Denver City Tramway Company, and we feel that we could not now get along without it. We shall be very glad to furnish any other information which may be desired by those especially interested, and trust that the foregoing description may convey some idea of the device to your readers.

S. W. CANTRIL, Superintendent.

A NEW COIN-COUNTING MACHINE

The accurate counting and proper handling of a large number of coins is a heavy task, necessitating the employment of persons who, unless specially skilled, often find it difficult to continue for any length of time without great fatigue, while errors are likely to arise because of miscount. The only sure way to accurately count coins is one by one, and this is the basis upon which is designed the counting and wrapping machine built by the National Coin Counting Machine Company, of New York. In this machine each coin is advanced separately, registered and assembled in a row with the others, ready to be transferred to the wrapping device before the next coin is handled. By this method it is absolutely impossible to make an error in count, because the coins are counted one by one. After the requisite number of coins is advanced the registering of the final coin of the bundle sets in operation the wrapping mechanism, which is normally inoperative. The bunched coins are then transferred from the buncher to the wrapper by means of the holder, which then returns to its original position, ready to receive the coins of the subsequent bundle. Twenty coins of the second bundle may be counted while the first bundle is being wrapped. In this way no time is lost in the count.

It is claimed that this machine will count and wrap three coins a second, or 180 coins (from four to nine bundles) in one minute.

The immense labor saving is at once realized by making the comparison to hand labor, which can as a maximum, providing no error in count occurs, count and wrap one bundle per minute. The machine, therefore, will do the work of from four to six men, without taking into consideration the loss in time if a miscount is found with hand labor. The above speed is limited only by the examination of the coins by the operator, as they are fed into the machine from the table upon which they were first deposited. Experience has shown that 180 coins examined per minute is a safe and conservative limit which should be expected from the average operator.

It does not require any knowledge of machinery to run and operate this machine. It occupies little space, is entirely automatic and requires no attention. However, it is necessary for the operator to learn to place the roll of paper from which the wrappers are cut, into the machine. The machine can be operated by hand, foot or electric power.

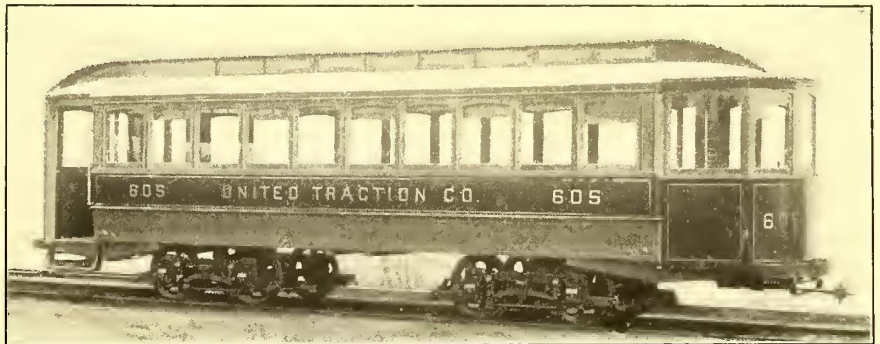
A contrivance of this kind is particularly useful in the counting rooms of street railway companies, where so much coin is

handled, not only on account of its accuracy but its labor-saving features. The company does not sell these machines, but charges a fixed rental, which covers their use and maintenance.

NEW CARS FOR ALBANY, N. Y.

The members of the Street Railway Association who visited Albany during convention week were interested in the excellent equipment and service of the United Traction Company. The car shown in the accompanying cut is one of ten recently built by the J. G. Brill Company. It is somewhat unusual in a car of this length to have the roof of steam car form, but with the style of vestibule used it is very appropriate, and undoubtedly adds to the strength, longitudinally, of the upper structure. Folding doors give entrance to the vestibules on one side only, the other side being solidly paneled. The windows of vestibules and at sides of car are arranged to drop into pockets. The seats are placed longitudinally, and afford seating for thirty-six passengers. The interiors are handsomely finished in cherry with ceilings of decorated quartered oak.

The general dimensions of the cars are as follows: Length over end panels, 28 ft.; length over crown pieces and vestibule sheathing, 37 ft. 5 ins.; from panel over vestibule, 4 ft. 8½ ins.;



NEW CAR FOR ALBANY

width over sills, 7 ft. 3½ ins.; over posts at belt, 7 ft. 10 ins.; sweep of posts, 3¼ ins.; size of side sills, 4¾ ins. x 6¾ ins.; end sills, the same; sill plates, ½ in. x 6 ins.; thickness of corner posts, 3¾ ins., and of side posts, 2¾ ins. The cars are furnished with angle-iron bumpers, "Dedenda" gongs and ratchet brake handles of the builders' make. The trucks are Brill 27-G, with 4-ft. wheel base, 4-in. axles and equipped with two 30-hp motors each.

The directors of the Trinidad Electric Company, Ltd., have submitted to the shareholders of the company the first report and statement of assets and liabilities as of Dec. 31, 1902, and the profit and loss account from June 1, 1901, the date when the purchased properties were taken over, until Dec. 31, 1902. The net earnings of the company during the period of construction, as is shown by the profit and loss account, have been sufficient to pay the bond interest and leave a balance of \$3,636 to the credit of this account. An examination of the financial statement shows clearly that, considering that the plants of both the lighting and tram-line concerns have been in a state of reconstruction, the company has done remarkably well. From June 1, 1901, it has met its financial engagements and earned \$39,328. The electric lighting is now satisfactory, and the tram-line service is about reaching completion. With regard to the statement of the directors that the tram receipts may exceed the expectations formed when the company was organized, it is firmly believed that this will be very largely the case. The directors of the company are: John F. Stairs, president; Hon. W. Gordon-Gordon, vice-president; C. Archibald, W. B. Ross, K. C., R. E. Harris, K. C., and B. F. Pearson.

LEGAL DEPARTMENT

CONDUCTED BY WILBUR LARREMORE, OF THE NEW YORK BAR

POLICE POWER AND ROADBEDS

From the very large number of judicial explanations of the police power of the State, we select the following from matter of *Jacobs* (98 N. Y., 98): "That power is very broad and comprehensive, and is exercised to promote the health, comfort, safety and welfare of society. Its exercise in extreme cases is frequently justified by the maxim *salus populi suprema lex est*. It is used to regulate the use of property by enforcing the maxim *sic utere tuo, ut alienum non laedas*. Under it the conduct of an individual and the use of property may be regulated so as to interfere, to some extent, with the freedom of the one and the enjoyment of the other; and in cases of great emergency engendering overruling necessity, property may be taken or destroyed without compensation, and without what is commonly called due process of law. The limit of the power cannot be accurately defined, and the courts have not been able or willing definitely to circumscribe it. But the power, however broad and extensive, is not above the Constitution. When it speaks, its voice must be heeded. It furnishes the supreme law, the guide for the conduct of legislators, judges and private persons, and so far as it imposes restraints, the police power must be exercised in subordination thereto. Judge Cooley, speaking of the regulation by the Legislature under the police power of the conduct of corporations holding inviolable charters, says: 'The limit to the exercise of the police power in these cases must be this: the regulations must have reference to the comfort, safety and welfare of society; they must not be in conflict with any of the provisions of the charter, and they must not, under pretense of regulation, take from the corporation any of the essential rights and privileges which the charter confers. In short, they must be police regulations, in fact, and not amendments of the charter in curtailment of the corporate franchise. (Const. Lim. [4th ed.] 719.)'"

In *village of Carthage vs. Frederick* (122 N. Y., 268), a municipal ordinance was upheld as involving a legitimate exercise of the police power, and as not being unconstitutional, which prohibited owners of real estate, under penalty, from suffering snow and ice to remain on sidewalks fronting their premises later than ten o'clock of the forenoon of any day after the same shall have fallen or collected thereon. The court took the view that such an ordinance did not unduly interfere with rights of property and that it was necessary for public safety while not unduly entailing private inconvenience. The court said in part: "In this latitude the accumulation of snow upon sidewalks in large quantities is a matter of course. Its presence retards travel, interrupts business and interferes with the safety and convenience of all classes. It is a frequent cause of accidents and thus affects the property of every person who is liable to assessment to pay the damages caused by a failure to remove it. But how is it possible for the authorities of a large city, with many hundred miles of streets, to remove the snow in time to prevent injury to those who have the right to travel upon the sidewalks, unless they can require the owners and occupants of adjacent property to remove it? Every man can conveniently and promptly attend to that which is in front of his own door, and it is both reasonable and necessary that he should be compelled to do so."

Upon considerations analogous to those advanced by the New York court it was held by the Supreme Court of Illinois in *City of Chicago vs. Chicago Union Traction Company* (Oct., 1902, 65 N. E., 243) that a city ordinance requiring a street railway company to clean between its rails, all streets occupied by the company, was valid and enforceable. It appeared that owing to the presence of the tracks, the street, instead of sloping from the center, had a flat crown 16 ft. in width, and that the rails retained dirt in the center of the street, and that,

owing to such conditions, it was more difficult and expensive to clean the street. It was accordingly decided that the ordinance was a reasonable exercise of the police power. The court said in part: "It does not seem unreasonable that the city should require the traction company to clean and render healthy that portion of the street occupied by the tracks of the road, under the circumstances of the case. In order to secure the public health and comfort, the property of individuals and corporations may alike be subjected to reasonable restrictions and burdens. It does not appear unreasonable that the traction company, having, in the exercise of the special privilege enjoyed by it of using the street, contributed to the unsanitary condition which injuriously affects the public health and comfort, should be required to aid in removing such conditions. The privilege enjoyed by the defendant in error company to maintain its railway in the street and operate its cars thereon is to be exercised in the interest of the public. It was to serve the public that the privilege was granted to it. Its business and property are impressed or affected with a public use. It may, therefore, be subjected to municipal regulations of a greater scope, in the interest of the public at large, than that of a railroad company exercising its franchises on its own roadbed."

In contra-distinction to this decision may be cited that of the Court of Errors and Appeals of New Jersey in *Fielders vs. North Jersey St. Ry. Co.* (November, 1902, 53 Atl., 404). In the latter case it was held that a city ordinance requiring all street railway companies to pave, repave, and keep in repair, under the direction and to the satisfaction of the proper municipal authorities, the space between the rails of their tracks and between the tracks, and the space for 1 ft. outside of each outer track, is not a valid exercise of the police power conferred upon the municipality by the Legislature. The court said: "The traction company is in the enjoyment of a public franchise granted by the Legislature. It has a use of the streets differing only in kind from that of other citizens using them, and has no interest in the soil. It is under a general obligation to keep its rails in repair so that they shall not become an obstruction to travel. It is also bound by any contract it may lawfully have made with the municipality in consideration of the grant of its local privileges. But entirely independent of any such consideration, and irrespective of any disturbance of the street surface in the operation of the railway, this ordinance attempts to impose upon every traction company the duty to pave a considerable portion of every street over which it passes, although it may bring no additional wear and tear upon the pavement, and the further duty to keep such pavement, when laid, at all times in repair. To call this 'regulation,' or an exercise of the police power, is a misuse of terms. It is taxation pure and simple. It calls upon the company to perform a function not essentially different in character, although vastly more onerous, than the once familiar operation known as 'working-out' the township road taxes by the labor of the inhabitants. Gen. St. p. 2817, Sec. 51 et seq. A power that will not support the imposition of license fees fixed on a revenue basis will certainly not support an ordinance of this character. We therefore hold that the ordinance is not supportable as an exercise of the police power, and, since no other legislative authority exists for its enactment, it imposed no duty upon the defendant company to repair the pavement between its rails, or to repave that portion of the street."

It would seem that the circumstances disclosed by these recent cases in Illinois and New Jersey, and the reasoning of the respective courts thereon, afford a test for the determination whether a given ordinance imposing obligations upon a street railway company is, or is not, a valid exercise of police power. If the company be merely required to perform acts in and about its tracks and roadbed which are rendered necessary by the existence of the track, the burden so imposed is legitimate. If, however, it be attempted to shift upon a street railway company a duty of paving or cleaning, which has no essential relation to the roadbed, and which would exist if there were no railway, the ordinance must be condemned. The cases last cited refer to a very large number of previous decisions in various courts, and it is not contended that the distinction here suggested has been uniformly observed; indeed, the authorities upon the sub-

Note.—Communications relating to this department should be addressed to Mr. Larremore, 32 Nassau Street, New York.

ject are conflicting and irreconcilable. It is to be hoped, however, that such distinction will be kept in mind in the future. It is oppressive, as well as illogical, to saddle street railways with ordinary municipal functions and duties under pretense of an exercise of the police power.

LIABILITY FOR NEGLIGENCE

NEW YORK.—Parties—Bringing in New Party—Discretion of Court.

1. Where, after suit for an injunction and for damages for the operation of a railway in front of plaintiff's premises, it appears that the original plaintiff has parted with the fee in the land without reserving any rights therein, so that all that remains is the question of past damages, it is improper for the court, in the exercise of its discretion, to bring in the grantee as a party plaintiff, for the causes of action of grantor and grantee in such case are totally distinct.

2. Under Code Civ. Proc. Sec. 452, as amended by Laws 1901, c. 512, which provides that, where a complete determination of the controversy cannot be had without the presence of other parties, the court must direct them to be brought in, and where a person not a party has an interest in the subject of the action or in real property, the title to which may be affected by the judgment, or in real property for injury to which the complaint demands relief, and makes application to be made a party, the court must direct him to be brought in—the question whether a party should or should not be brought in is still within the discretion of the court.

3. After suit for an injunction and for damages for the operation of an elevated railway in front of plaintiff's premises, plaintiffs conveyed to a third party, the deed expressly reserving "all claims" against the railroads "for injury either to the fee value or rental value," and the grantee covenanting to "consider himself a trustee in so far as they are affected by the operation of said railways," etc. Thereupon the grantee joined in an application to be made a party plaintiff. Held not improper for the court, in the exercise of its discretion, to grant the application.—(Pope et al. vs. Manhattan Railway Co. et al., 80 New York Supp., 316.)

NEW YORK.—Taxation—Assessment of Corporate Franchises—Commission to State Authority—Violation of Constitution.

1. Laws 1899, c. 712, amends Tax Law, Sec. 2, subd. 3, by adding to the subjects of taxation therein specified the franchise to construct, maintain, or operate over or under streets or public places of any municipality the tangible property thereon, which was previously assessable as realty, and provides that the value of such tangible property, plus the value of the franchise, shall be assessed together, under the designation of a "special franchise," by the State Board of Tax Commissioners, which shall report such assessment to the local assessor, to be placed on his roll; taxes to be levied and collected against it as against other property. Held to violate Const. art. 10, Sec. 2, guarantying the local selection of local officers, in so far as it withdraws the tangible property from the jurisdiction of the local assessors, though the amount of property thus withdrawn is relatively small.—(People ex rel. Metropolitan Street Railway Co. vs. State Board of Tax Commissioners, 80 New York Supp., 85.)

NEW YORK.—Streets—Title of Abutting Owners.

1. Where a patent to certain land abutting a street was granted by a Dutch Governor of New York, and thereafter patents to the same land were granted by English Governors in confirmation of the previous grant, conveying the lands by the same description, such subsequent grants operated to transfer the title to the center of the street, though the street was laid out during a time when it was subject to the Dutch law, by which the fee of the streets was in the sovereign.—(Paige vs. Schenectady Railway Co. Lansing vs. Same. Van Epps vs. Same. Beattie vs. Same. Whitmyre vs. Same. Thompson vs. Same, 82 New York Supp., 192.)

NEW YORK.—Easement in Street—Extinguishment by Abutting Owner—Consent to Elevated Railroad—Bona Fide Purchaser—Extinguishment of Easement—Notice.

1. On a paper containing a consent for construction of an elevated railway over, through, and along a street, to be signed by abutting owners, one of them signed his name after the words, "I am in favor of an elevated road over the middle of the street, but not on the sidewalk." In subsequent proceedings in court by the railway company for permission to construct the road because of failure to obtain the consent of a majority of the owners, he was not put down in its list of those who had consented. Held, that he had not made a consent extinguishing his easement in the street, and the company did not act on the writing as a consent, but it was only an expression of willingness to sign a more restricted consent.

2. A purchaser of property is not affected by his grantor's consent to construction of an elevated railroad in the street in front of it, extinguishing its easement in the street, he not having knowledge of it, it not being recorded, and there being one railroad in the street.—(Shaw et al. vs. Manhattan Railway Co. et al., 79 New York Supp., 915.)

NEW YORK.—Board of Railroad Commissioners—Procedure—Discretion as to Hearing Evidence—Application for Certificate of Public Convenience—Rights of Contesting Railroads—What Roads Entitled to Oppose Application.

1. On an application to the Board of Railroad Commissioners for the certificate, provided for in Sec. 59 of the railroad law (Laws 1890, c. 565, amended by Laws 1892, p. 1395, c. 676), that public convenience and necessity require the construction of the proposed road, it has a very wide discretion as to what evidence it will and what it will not hear.

2. The Board of Railroad Commissioners may grant the certificate provided for in Sec. 59 of the railroad law (Laws 1890, c. 565, amended by Laws 1892, p. 1395, c. 676), that public convenience and necessity require the construction of a proposed railroad, though another road, which has had the legal right to build through the same territory for fifteen years, opposes the application, and shows that it is ready and able now to build itself.

3. A railroad which itself did not show any right to build within the limits of New York City had no standing to object to the issuance to another company of the certificate provided for in Sec. 59 of the railroad law (Laws 1890, c. 565, amended by Laws 1892, p. 1395, c. 676), that public convenience and necessity required the construction of its proposed road within the city.—(People ex rel. New York City & Western Railway Co. vs. Board of Railroad Commissioners of State of New York et al., 81 New York Supp., 26.)

NEW YORK.—Constitutional Law—Home Rule—Taxation—Special Franchise Tax—Validity—Obligation of Contracts—Due Process of Law.

1. Const. Art. 10, Sec. 2, providing that all city, town, and village officers whose election or appointment is not provided for by the Constitution shall be elected by the electors of such cities, towns, and villages, or some division thereof, or appointed by such authorities thereof as the Legislature shall designate, prohibits the transfer of the duties and privileges belonging to local officers to State officers.

2. The supreme taxing power of the Legislature should not be crippled by the home rule provision of Const. Art. 10, Sec. 2, so as to take from the Legislature the right to create a new system of taxation, and bring in property of a new character, hitherto untaxed, with some other property incidental thereto, and worthless without it.

3. The general franchise of a corporation gives it a right to do business by the exercise of the corporate power so granted, but does not give it a right to anything in the public highways without special authority from the State, or some officer or body acting under the authority of the State.

4. The right granted to a corporation to construct, maintain, or operate in a public highway a street railway, or to do something in such public highways which, except for the grant, would be a trespass, is a special franchise.

5. Laws 1899, p. 1589, c. 712, amending the general tax law (Laws 1896, p. 795, c. 908), authorizes for the first time the assessment or valuation for general taxation of all special franchises by a State Board of Taxation Commissioners appointed by the Governor, and declares that the right or permission to construct or operate some structure for public use in, under, above, on, or through streets, highways, or public places, such as railroads, gas pipes, water mains, poles and wires for electric lines, and the like, is a special franchise, and provides that, for purposes of taxation, such a franchise is made real property, and includes the value of the tangible property of a person, copartnership, association, or corporation in or upon any such places, or, in, under, or upon the public waters in connection with the special franchise, and is to be taxed as a part thereof. Held, to include nothing but what is in the street, directly or indirectly, and to exclude power houses, depots, and all structures not within the lines of the street.

6. Laws 1899, p. 1589, c. 712, known as the "Special Franchise Act," and amending the general tax law (Laws 1896, p. 795, c. 908), confers on State officers the right to assess such franchises, and to assess the tangible property annexed thereto, which was formerly assessed by local boards of assessment. Held, not to violate the principle of the home rule provision of Const. Art. 10, Sec. 2, providing that all city, town, and village officers whose election and appointment are not provided for by the Constitution shall be elected in such cities, towns and villages, or appointed by the authorities thereof, because it creates a new system of taxation, and brings within range a new character of property, requir-

ing new methods of valuation, and the exercise of functions which never belonged to local assessors, and because the property formerly assessed by local assessors is an inseparable part of the special franchises mentioned in the statute, and because the power to assess the special franchise, of which the tangible property formerly assessed by the local assessors is an inseparable part, never belonged to localities, and never could be exercised with uniformity by their officers, and, therefore, was, of necessity, conferred upon State officers having a jurisdiction co-extensive with the limits of the State.

7. Legal principles are established by what was decided in the opinions of a given case, and not by expressions used *arguendo*.

8. The special franchise act (Laws 1899, p. 1589, c. 712) is not unconstitutional, as impairing the obligation of a contract, as it changes no part of the corporate grant, and alters no stipulation therein, increases no payment, and exacts nothing from the owners of the franchise that is not exacted from the owners of property generally.

9. The special franchise act is not objectionable as incapable of execution.

10. The special franchise act is not unconstitutional on the ground that due process of law was not observed thereunder in the taxing of the franchises.—(People ex rel. Metropolitan Street Railway Co. vs. State Board of Tax Commissioners. People ex rel. Twenty-third Street Railway Co. vs. Same. People ex rel. Central Cross-Town Railway Co. vs. Same. People ex rel. Consolidated Gas Co. of New York vs. Same. People ex rel. Brooklyn City Railway Co. vs. Same. People ex rel. Coney Island & B. R. Co. vs. Same. People ex rel. New Amsterdam Gas Co. vs. Same, 67 N. E. Rep., 69.)

NEW YORK.—Eminent Domain—Damages—Costs.

1. Code Civ. Proc., Sec. 3372 (Condemnation Law), provides that "the compensation awarded by the commissioner exceeds plaintiff's offer, the court shall, in the final order, direct that defendant recover of plaintiff costs of the proceeding as allowed in the Supreme Court, including allowances for proceedings "before and after notice of trial." Held, that the trial spoken of is the one before the appointment of commissioners, and a landowner awarded more than plaintiff's offer is not entitled to costs in the proceedings before the commissioner, as though a trial had been had.—(Brooklyn Union Elevated R. Co. vs. Case, 18 N. Y. Supp., 527.)

OHIO.—Street Railroads—Consent of Abutting Owners—Eminent Domain.

1. The consents of owners of lots abutting on a street to the construction and operation of a street railroad on such street are not property rights that can be appropriated under the power of eminent domain.

2. Such consents are not property rights, but rights in their nature personal to each owner of an abutting lot.

3. Such personal rights were bestowed by the general assembly on owners of abutting lots as a check upon the power of municipal authorities to authorize street railroads to be constructed and operated against the wishes of the owners of lots on such street.

4. The owners of abutting lots are free to give or withhold such consent, upon such terms as to them severally may seem proper, and there is no public policy in this state against giving such consent for a valuable consideration moving from the street railroad company to such lot owner.—(Hamilton G. & C. Traction Co. vs. Parish, 65 N. E. Rep., 1011.)

PENNSYLVANIA.—Railroads—Injunction—Crossing by Street Railway.

1. Where a railroad company had located, but not constructed, a branch across a public road, it could sue to enjoin a street railway company from constructing its road across such branch at grade until the rights of the parties at the crossing were adjusted.—(Ohio River Junction R. Co. vs. Freedom & C. Electric St. Ry. Co., 53 Atlantic Rep., 773.)

PENNSYLVANIA.—Street Railroads—Contracts—Abandonment—Damages.

1. A street railroad company obtained a right of way, and covenanted to grade and pave the portion thereof not occupied as a roadway by its tracks. Thereafter it abandoned the location by reason of its failure to gain the municipal consent, and placed no tracks whatever upon the land. Held, that the owner was not entitled to recover from the railroad company the cost of the grading and paving, but only nominal damages.—(Hays et al. vs. Wilkinsburg & E. P. St. Ry. Co., 54 Atlantic Rep., 322.)

PENNSYLVANIA.—Street Railroads—Use of Tracks—Evidence.

1. Though a street car company has a superior right to use its tracks, it does not forbid their use by the public so as to render a person placing himself or his horse and vehicle on the tracks for any legitimate use of the street a trespasser.

2. Plaintiff was unloading a piano from a wagon, and waited

for two street cars to pass, and then backed his wagon against the curb with the horse standing on the tracks. He sent a man down the street to signal any car that might approach. One came, without giving any warning, at an unusual rate of speed; and although the motorman had an unobstructed view for three or four squares, and was given a notice to stop, he struck the horse and wagon, injuring plaintiff. Held, that a verdict for plaintiff would be sustained.—(McFarland vs. Consolidated Traction Co., 54 Atlantic Rep., 308.)

PENNSYLVANIA.—Street Railroad—Lease of Tracks—Objection by Borough.

1. A borough cannot object that a street railroad company incorporated under a special act of the Legislature, giving it a right to lay its tracks in the borough without municipal consent, has exceeded its powers in entering into an agreement for the lease of its tracks; such question being for the commonwealth only.—(Minersville Borough vs. Schuylkill Electric Ry. Co. et al. (No. 2.) 54 Atlantic Rep., 1053.)

PENNSYLVANIA.—Street Railroads—Use of Streets—Breach of Conditions—Forfeiture of Right—Laches.

1. Where a street railway company has been granted by a borough the right to use a street on the condition that such right shall be forfeited if it does not within a year build a certain extension, the borough can remove the track from the street if the extension is not constructed within a year.

2. Where a street railroad has failed to build an extension, which was the condition of its obtaining the use of the streets, indulgence by the borough in commencing proceedings to compel removal of the tracks, where the delay leads to no change in the situation, is not laches on the part of the borough.—(Minersville Borough vs. Schuylkill Electric Ry. Co. et al. (No. 1), 54 Atlantic Rep., 1050.)

PENNSYLVANIA.—Townships—Boroughs—Street Railroads—Consent of Abutting Owners.

1. Act April 28, 1899 (P. L. 104), relating to the organization of townships of the first class, did not create such township into a borough.

2. Street railway companies cannot be constructed upon the highways in townships of the first class without the consent of the abutting owners, such construction being an additional burden, and therefore a taking of or injury to the property of such abutting owner.—(Dempster vs. Union Traction Co. et al., 54 Atlantic Rep., 501.)

TEXAS.—Railroads—Right of Way—Use of City Streets—Foreclosure Sale—Rights of Purchaser—Abandonment of Rights—Statutory Provision.

1. Where a city ordinance granted a railroad the right to occupy a street for right of way purposes, and the company built on a portion of the street, and its successor in title assumed possession of the track, and extended the same, though not so far as the ordinance authorized, the city's grant of the whole street was accepted, including the portion on which no road was constructed.

2. Where a railroad had obtained from a municipal corporation its unconditional consent to the construction of a railroad on one of its streets, a purchaser at foreclosure sale of all the properties, privileges, and franchises of the railroad acquired its rights to the use of the whole street, including a part over which no road had been actually constructed.

3. The fact that the charter of the purchasing company conferred on it power to occupy the streets in the city in question for right of way purposes, subject to the condition precedent that it obtain the city's consent, did not require it to surrender the right of way which it had acquired by its purchase, and reacquire the same by exercise of its charter powers.

4. Where a railroad for many years delayed to use a portion of the right of way granted it on the streets of a city, and the city thereupon granted the right to another company, a decision in favor of the former company in injunction proceedings brought by the latter involves the conclusion that there had been no abandonment of the first granted right of way.

5. Where a railroad was granted a right, unconditioned as to time, to build on a certain street, and for 14 years such right of way, for a distance of a block and a half, was entirely unused, such delay did not necessarily, and as a matter of law, constitute an abandonment.

6. Rev. St. art. 4558, providing that any railroad corporation which shall fail to equip at least 20 miles of its right of way every year after the second of its incorporation, until the whole is completed, shall forfeit its corporate existence, and that its powers shall cease so far as relates to the portion of the road then unfinished, does not apply to a failure to occupy a short portion of a right of way granted in a street to connect with another line; the road having been built into the city along such street, in due time after the grant.—(Denison & S. Ry. Co. vs. St. Louis S. W. Ry. Co. of Texas, 72 S. W. Rep., 161.)

TEXAS.—Railroads—Right of Way—Use of City Street—Foreclosure Sale—Rights of Purchaser—Forfeiture of Rights.

1. Where a railroad had obtained from a municipal corporation its unconditional consent to the construction of a railroad on one of its streets, a purchaser at foreclosure sale of all the properties, privileges, and franchises of the railroad acquired its rights to the use of the street.

2. The fact that the charter of the purchasing company conferred on it power to occupy the streets in the city in question for right of way purposes subject to the condition precedent that it obtain the city's consent, did not require it to surrender the right of way which it had acquired by its purchase, and reacquire the same by exercise of its charter powers.

3. Where a city ordinance granted a railroad the right to occupy a street for right of way purposes, and the company built on a portion of the street, and its successor in title assumed possession of the track, and extended the same, the city's grant to the use of the street was accepted.

4. Where a city granted a railroad permission to use a street for right of way purposes, another railroad, which was subsequently granted a right of way over the same street, could not insist that the first grantee had forfeited its rights by failing to exercise proper diligence in completing its track, only the state or city being entitled to enforce a forfeiture.—(Denison & S. Ry. Co. vs. St. Louis S. W. Ry. Co., 72 S. W. Rep., 201.)

TEXAS.—Highways—Use of Railroad—Right of County to Sue—Measure of Damages—Evidence—Instructions.

1. Rev. St. 1895, art. 4426, provides that a railway may construct its road along or upon a highway which the route of such railway may intersect or touch, but that it shall restore such highway "to its former state, or to such state as not to unnecessarily impair its usefulness." Held that, where a railway thus appropriates a highway, a county may maintain an action for any damages resulting from the appropriation.

2. Where a railroad appropriated a portion of a highway, and constructed a new road near to and parallel with the old one for the distance that the latter had been appropriated, the measure of damages to be recovered by a county for such appropriation is the amount required to put the new road in as good condition as the old road was in when appropriated.

3. A railroad appropriated a highway, and, to replace it, built a new road parallel thereto. Held, in an action by the county against the railroad for damages, that it was error to admit testimony showing the condition of the old road long before it was appropriated, or of the new road long after it was completed.

4. A railroad appropriated a highway, and, to replace it, built a new road parallel thereto. In an action by the county for damages for such appropriation there was evidence that the railroad had made excavations adjacent to the new road since its construction. Held, that it was error to refuse a charge that no damages could be allowed on that account, where the pleading did not authorize a recovery for such damages, as the jury were liable to consider such evidence in the absence of such an instruction.—(St. Louis S. F. & T. Ry. Co. et al. vs. Grayson County, 73 S. W. Rep., 64.)

VIRGINIA.—Deed of Trust—Rights of Grantor—Streets—Dedication—Validity—Foreclosure of Deed—Rights of Purchaser—Recovery of Land—Ejectment—Estoppel—Acquiescence.

1. Where a corporation owned land subject to a deed of trust, it had no power, as against the holder of the deed, or a purchaser on foreclosure thereof, to dedicate any portion of the land to the public as a street.

2. Where, at the time an owner of land subject to a deed of trust attempted to dedicate a portion thereof to the public as a street, and contracted with a street railroad company to grant a right of way over the same, and pay the company a bonus, the deed of trust was duly registered, and the holder of the deed notified the railroad company of his rights in the land, a purchaser on foreclosure of the deed was not estopped from maintaining ejectment against the railroad company to recover the land.

3. In a suit to restrain a purchaser of land under a deed of trust from maintaining ejectment to recover land occupied by a railroad company for its right of way under a contract between it and the grantor after the execution of the deed, evidence held insufficient to show that the grantee in the deed had acquiesced in plaintiff's use of the land.

4. Where the only reference to a map and prospectus of a land company contained in a deed of trust of the land and in deeds of release for lots sold was in connection with the description of the released lots furnished by the map and the price list in such prospectus, such deeds did not estop the grantee from objecting to the construction of a railroad on a street shown by the map.—(Newport News & O. P. Ry. & Electric Co., vs. Lake et al., S. E. Rep., 566.)

WEST VIRGINIA.—Municipal Corporations—Grant of Fran-

chise—Notice of Application—Common Council—Vacancies—Election to Fill—Parol Evidence—Fraud.

1. In granting a franchise or privilege, the council of a municipal corporation or a county court performs a legislative, and not a judicial function, and the notice required by section 1 of chapter 29, p. 82, of the Acts of the Legislature of 1901, is provided merely in aid, protection, and extension of the right to be heard by petition, and need not set forth the day on which the application will be, or is expected to be, acted upon. As the act requires the application to be filed 30 days before action upon it, and forbids any action upon it until after 30 days' publication of notice, the notice is merely intended to apprise the public of its pendency.

2. A statute requiring notice to be "given by publication for thirty days in some newspaper of general circulation" published in a county or city, is sufficiently complied with by publication in the successive issues of a weekly newspaper through the period of time named.

3. Under a city charter requiring a quorum, composed of a majority of the members of the council, for the transaction of business, less than a quorum cannot convene a session of the council and transact business.

4. Where, in such case, less than a quorum meet, and attempt to declare the seat of an absent member vacant, and elect another person to his seat, and still another to the seat of a member whose resignation has been placed in the hands of the mayor, but not acted upon, before the other regular members appear, thus illegally giving themselves an apparent majority in the council, the alleged elections to fill vacancies are void, and the strangers so obtruded upon the council have no right to vote, and no measure can be passed by their votes.

5. Although, in a collateral proceeding, parol evidence is not admissible to contradict the record of the proceedings of the council of a municipal corporation, it is admissible in such case to show that the council had not, and could not have, convened at all, or acquired the right to make a record, when the alleged elections took place, although the minutes contain the recital, "Roll of members called, and a quorum found present."

6. Fraud both lurks and deals in generalities.—(City of Benwood vs. Wheeling Ry. Co. et al., 44 S. E. Rep., 271.)

TEXAS.—Passengers—Carriers—Insults to Passengers—Damages.

1. Allowing a leading question to be asked as to a matter not questioned in the pleadings or evidence is not prejudicial.

2. A passenger on a street car may recover damages where she is carried past her destination against her will, and thereafter the motorman addresses her in an insulting manner, and shakes his fingers and an iron bar in her face.

3. One hundred dollars damages is not too great where a passenger on a street car is carried past her destination against her will, and the motorman thereafter addresses her in an insulting manner and shakes his fist in her face.—(San Antonio Traction Co. vs. Crawford, 71 S. W. Rep., 306.)

TEXAS.—Carriers—Street Railways—Sudden Start—Injury to Passenger—Care Required—Trial—Instructions—Omissions—Requests.

1. An omission of the court to charge an element of damage pleaded is not error, in the absence of a request to give an instruction covering the omission.

2. Where, in an action for injuries to plaintiff's wife by the premature starting of defendant's street car while boarding it, the court charged that, if she signaled for the purpose of taking passage, and the car came to a standstill, and while she was attempting to enter the car was suddenly started without warning, and she was thereby injured, and such sudden starting was negligence on the part of the company, and such negligence was the proximate cause of her injury, plaintiff was entitled to recover, such instruction was sufficiently comprehensive to justify the court in refusing a requested charge on the subject of defendant's negligence.

3. In an action for injuries to a passenger, an instruction that negligence in the failure to use that high degree of care that would be exercised by a prudent person under like circumstances was erroneous, the carrier being required to use "the utmost care" for the safety of its passengers.—(Knauff vs. San Antonio Traction Co., 70 S. W. Rep., 1011.)

TEXAS.—Street Railways—Injury to Passenger—Contributory Negligence—Question for Jury—Petition—Exceptions—Harmless Error—Leading Question—City Ordinance.

1. A passenger got on an open street car, which had a running board along each side and aisle through the center. It had no conductor. He put his fare in the box at the front end and walked back on the running board to one of the only two vacant seats near the rear, and as he was stepping up to take the seat he was struck by a girder of the bridge the car was crossing and

knocked off and injured. He was sixty years of age, weighed 220 pounds and had passed over the bridge on the cars almost daily for six months, but testified that he had not noticed that the track was so near the girders as to endanger passengers standing on the running board. There was no obstruction in the center aisle except the dresses of the lady passengers sitting next to it. Held not to be contributory negligence as matter of law.

2. Where, in an action against a street railway company, the petition alleged an ordinance of the city requiring a conductor and motorman for each car, but the ordinance was not offered in evidence, nor any issue which could be evolved from such allegation submitted to the jury, the error, if any, in overruling defendant's exception to that part of the petition was harmless.

3. Where a motion to strike out an amended supplemental petition is aimed at the pleading as a whole, it must be regarded as a general exception, and, if any part of the pleading presents a valid replication to any part of defendant's answer, the motion is properly overruled.

4. In an action against a street railway company for injury to a passenger, resulting from being knocked off the running board of a car by a bridge girder, a witness who had testified that plaintiff was on the running board when first seen by him was asked: "On what part of the running board when you first saw him?" Held, that an objection to the question as leading could not be sustained.

5. Where the fact that plaintiff was on the running board of a street car at the time he was injured was undisputed, error, if any, in admitting, over an objection that it was leading, a question as to what part of the running board he was on when first seen by the witness was without prejudice.

6. Where, in an action against a street railway company for injury to a passenger, who was knocked off the running board of a car by a bridge girder, the petition alleged negligence in running at excessive and unlawful speed, in violation of a certain ordinance, such ordinance was relevant to the issue, and properly admitted in evidence.—(San Antonio Traction Co. vs. Bryant, 70 S. W. Rep., 1015.)

TEXAS.—Street Railways—Negligence—Personal Injuries—Discovered Peril—Instructions—Contributory Negligence—Burden of Proof.

1. Assignments of error which are not in the form of propositions and have no propositions submitted thereunder cannot be considered.

2. The petition in a suit against a street railway company alleged that the conductor invited plaintiff on the car, and while it was in motion negligently ordered him to get off, but did not diminish the speed, though knowing plaintiff was going to get off, so that in doing so plaintiff was injured. Held not to authorize a recovery on the ground of discovered peril.

3. Where it was in issue whether defendant street railway company's conductor compelled plaintiff and other boys to alight from a moving car, an instruction referring to language used by the conductor as an "order" was objectionable, as leading to an inference that the boys were bound to obey.

4. In an action against a street railway company, in which it was alleged that defendant's conductor compelled plaintiff and other boys to alight from a moving car, plaintiff testified that two of the other boys got off of their own accord, that his brother got off before he did, and that he had no intention of becoming separated from the other boys. Defendant contended that plaintiff was not compelled to get off, but did so to prevent being separated from his companions. Held, that failure to instruct on this phase of the case, that defendant would not be liable if plaintiff got off voluntarily, was error.

5. Where a suspicion of contributory negligence could be inferred from the case as made by plaintiff, it was error to instruct that the burden was on defendant to show contributory negligence by a preponderance of the evidence.—(Denison & S. Ry. Co. vs. Carter, 70 S. W. Rep., 322.)

UTAH.—Witnesses—Statement of Physician—Privilege—Presumption.

1. Under Revised Statutes, section 3414, providing that a physician cannot, without the consent of his patient, be examined in a civil action as to any information acquired in attending the patient, which was necessary to enable him to prescribe for the patient, a physician who was sent by a street railway company to examine a passenger who had been injured was not entitled to testify as to any information acquired while attending such person.

2. Where a physician was sent to make an examination of a passenger injured by a street railway company, it will be presumed that the relation of physician and patient existed with regard to such examination, and that the information obtained was for the purpose of enabling the physician to prescribe and act for the patient.—(Munz vs. Salt Lake City R. Co., 70 Pacific Rep., 852.)

CHARTERS, FRANCHISES AND ORDINANCES.

ILLINOIS.—Judgment—Res Adjudicata—Appeal—Questions Reviewable.

1. As a railroad company leasing its line is absolutely liable for negligent acts of its lessee, a judgment on the merits for defendant, in an action against the lessor railroad company for negligence of its lessee, is conclusive against the right of plaintiff in that action to recover in a subsequent action against the lessee based on the same act of negligence.

2. Where, in an action against a lessor railroad company for damages resulting from the negligence of the lessee, a trial on the merits resulted in judgment for defendant, the court could not, on appeal from a judgment for defendant in a subsequent suit on the same negligent act against the lessee, review the action of the trial court in the first case in giving instructions.

3. Where a second action is on the same claim or demand as the former one, the judgment in the former suit, if rendered on the merits, is an absolute bar, and concludes both parties and privies, not only as to every ground of recovery or defense actually presented, but also as to every ground which might have been presented.—(Anderson vs. West Chicago St. R. Co., 65 N. E. Rep., 717.)

ILLINOIS.—Corporations—Consolidation—Dissenting Stockholder—Rights—Confiscation of Shares.

1. Where, at the time a subscription for the stock of an electric company was made, Starr & C. Ann. St. c. 32, par. 65, was in existence, which authorizes corporations created under the laws of the State to consolidate under certain restrictions on the vote of two-thirds of the capital stock, such statute became a part of the subscription contract; and a dissenting stockholder has no right to demand of a company, with which his company was consolidated, payment in cash for his shares.

2. Where a corporation with a capital of \$250,000 was consolidated with a new company, incorporated with a capital of \$500,000, the par value of the shares of both being \$100, the fact that none of the capital of the consolidated company was paid in, except the amount of the shares of the old company, which shareholders were authorized to turn over to the new in exchange for the same number of shares of the consolidated company, did not amount to a confiscation of one-half in value of the old shares, in the absence of a showing that the balance of the stock of the consolidated company was not in good faith subscribed and was not of the par value of \$250,000.—(Mayfield vs. Alton Ry., Gas & Electric Co., 65 N. E. Rep., 100.)

INDIANA.—Eminent Domain—Property Appropriated to Public Use—Necessity.

1. To warrant the condemnation of land already appropriated to a public use, the power of condemnation must be conferred by the Legislature in express terms or by necessary implication.

2. Act 1901, p. 461 (Burns' Rev. St. 1901, Sec. 5468a, subd. 5), which conferred authority upon an interurban street railway "to construct its road upon or across any stream of water, water course, road, highway, railroad or canal, * * * which the route of its road shall intersect, does not purport to authorize it to appropriate a railroad right of way longitudinally in whole or in part.

3. The condemnation of a railroad right of way for street railway purposes was not shown to be necessary so as to warrant a holding that it was conferred by necessary implication, where it was merely claimed that, unless the railroad way was condemned, the street railway would "be compelled to diverge from its right of way as surveyed and located to such an extent and in such a manner as it will render hazardous, dangerous, and impracticable the constructing of its lines and the operation of its cars."—(Indianapolis & V. R. Co. vs. Indianapolis & M. Rapid Transit Co., 67 N. E. Rep., 1013.)

MICHIGAN.—Railroads—Suburban Electric Line—Right to Take Private Property—Construction Within Certain Distance of Fence—Applicability of Statute.

1. A corporation operating a suburban electric railway has no right, on an abutting owner's refusal to sell a strip off the front of his land for a track, to enter thereon, without attempt to exercise any power of eminent domain, cut trees, grade the property, and construct its track; and equity will enjoin it from so doing.

2. Comp. Laws, Sec. 4097, occurring in a chapter headed, "The Performance of Labor on Highways and the Commutation Therefor," provides that surplus earth or gravel taken from one portion of the road may, with the consent of the highway commissioners, be used to fill in depressions in any other road in the district, provided that no earth shall be dug, plowed, or scraped nearer than 8 ft. of the margin of the highway without the consent of the owner of the adjacent premises. Section 6446 provides that any street railway company may extend, construct, use, and maintain a street railway in and along the highways of any township upon such

terms and conditions as may be agreed on by the company and the township board. Held, that the power of the township board to authorize the construction of a street railway was not limited by Sec. 4097 so as to invalidate its permission to a company to build within 8 feet of the highway margin.—(*Frcud vs. Detroit & P. Ry. Co., Chandler et al. vs. Same.*, 95 N. W. Rep., 559.)

MICHIGAN.—Municipalities—Agreement with Street Railway to Maintain Streets—Authority—Construction of Contract.

1. A street railway company taking over certain franchises granted to another company consented to a low fare as a consideration for an agreement with the city, that all paving, repaving, or repairing of pavements on streets used by the company should be at the expense of the city, except in certain instances, and that there should be no charge whatever, in any form or manner, against the company for repaving and repairing of pavements and streets on which the company operated its cars. Held, that by this agreement the city bound itself to repair the foundation necessary for the support of the company's tracks.

2. A city has authority to bind itself to construct and maintain at its own expense the foundation required in its streets for the support of street car tracks, though such foundation must be heavier and stronger than that required by the ordinary traffic on the streets.

3. A city does not engage in a work of internal improvement by agreeing with a street railway to pave and repair the streets used by the street railway at its own expense, and without requiring any assistance from the street railway company.—(*City of Detroit vs. Detroit United Ry.*, 95 N. W. Rep., 736.)

MICHIGAN.—Municipal Corporations—Street Railways—Ordinances—Ultra Vires—Jurors—Competency—Taxpayers—Res Judicata.

1. In an action by a city against a street railway company on a liability incurred for the expense of supervising construction of the street railway, and for materials furnished, taxpayers were not incompetent as jurors on the ground of interest.

2. A city ordinance authorizing the construction of street railway tracks, and providing that the 6 ins. of concrete required by the ordinance as foundation for ties to rest on shall be laid by and at the expense of the city, was not invalid as ultra vires.

3. A taxpayer brought proceedings to enjoin a city from fulfilling an agreement by ordinance to lay at its own expense a concrete foundation for a street railway company, claiming that the ordinance was ultra vires. Held, in an action by the city against the railway company, in which the railway set up a counterclaim for work done in concreting, that the decision that the ordinance was ultra vires was not res judicata; the company not having been a party to the former action.—(*City of Detroit vs. Detroit Ry.*, 95 N. W. Rep., 992.)

MICHIGAN.—Street Railways—Additional Servitude—Lowering Grade—Presumption—Construction of Road at Side of Highway.

1. The construction and operation of a street railroad on a highway is not an additional servitude.

2. An abutting owner has no right to compensation because the grade of a highway is lowered for a street railroad which is built to conform thereto, though the highway is owned by a plank road company, the change of grade being with the consent of it and of the township.

3. An abutting owner has no right to compensation because a street railroad is constructed, on a lowered grade, so close to the side of the highway as to subject his fence and land to the danger of sliding into the highway.

4. The lowering of the grade of a highway by a street railway company without objection by the township will be presumed to be with its consent.—(*Austin vs. Detroit, Y. & A. A. Ry.*, 96 N. W. Rep., 35.)

NEW YORK.—Railroads—Crossings—Proceedings—Nature—Sufficiency of Petition—Decision by Railroad Commissioners—Effect—Temporary Crossing—Appeal—Review.

1. A proceeding under Railroad Law (Laws 1890, p. 1082, c. 565, as amended by Laws 1892, p. 1382, c. 676) Sec. 12, providing for the appointment of commissioners to determine the compensation to be paid by a railroad being constructed for the right to intersect an old road, and the point, grade, and manner of such intersection, if the corporations fail to agree thereon, is not one commenced or required by law to be conducted under the condemnation law, and hence the petition may be accompanied by an order to show cause returnable in less than eight days, the time required by Code Civil Procedure, Sec. 3361, and Sec. 780 gives the court or a judge thereof the power to make such orders returnable in such time.

2. A petition in a proceeding under Railroad Law (Laws 1890, p. 1082, c. 565, as amended by Laws 1892, p. 1382, c. 676), Sec. 12, for the appointment of commissioners to determine the compensation to be paid by a railroad for the right to intersect the track of other roads, and the point and manner of such intersection, which

alleges that the petitioner is a corporation, that the route of its road as laid out crosses the other road; that it desires to intersect such road, specifying the place; that the two corporations cannot agree on the compensation for or the points or manner of such intersection; that the requisite consent of property owners and municipal authorities has been obtained; and that the road is in actual operation on both sides up to the point of the desired intersection—is sufficient to confer jurisdiction on the court to appoint commissioners.

3. A decision by the Board of Railroad Commissioners under Railroad Law, Sec. 68, which gives such commissioners authority to determine whether a surface road shall cross a steam road above, below or at grade, and to fix the proportion of the expenses for such crossing to be borne by each road, that a surface road shall cross a steam road at grade, and bear all the expenses connected with the crossing, does not bar an application by the surface road for an order of court for a temporary crossing.

4. Laws 1893, p. 463, c. 239, Sec. 1, which provides that when a petition has been made by a surface railroad desiring to cross another railroad for the appointment of commissioners to determine the grade, compensation, etc., for such crossing, the court may authorize a temporary crossing, was not repealed by Laws 1897, p. 794, c. 754, as amended by Laws 1900, p. 1590, c. 739 (Railroad Law, Sec. 68), which provides that all steam and surface railroads thereafter crossing a steam railroad shall be above, below, or at grade of such existing road, as the Board of Railroad Commissioners shall determine, and that such board shall fix the proportion of expenses to be paid by each railroad.

5. So far as Railroad Law (Laws 1890, p. 1082, c. 565, as amended by Laws 1892, p. 1382, c. 676), Sec. 12, authorizes the appointment of commissioners to determine the amount of compensation to be paid by one railroad for the right to intersect another, and the manner of such intersection, it is not repealed by Law 1897, p. 794, c. 754, as amended by Laws 1900, p. 1590, c. 739 (Railroad Law, Sec. 68).

6. Where the order of court granting a surface railroad a temporary crossing over a steam railroad at a place where, by a decision of the Board of Railroad Commissioners, the surface road was to have a permanent grade crossing on compliance with certain conditions, required the giving of a bond conditioned on the faithful performance of all conditions that might be imposed by the board, it cannot be said that the temporary cross was permitted without compliance with the conditions imposed by the decision of the board.

7. In a proceeding by a surface railroad for the appointment of commissioners to determine the compensation, etc., for a crossing over the track of certain steam railroads, which the Board of Railroad Commissioners had decided should be at grade, defendants consented in writing to permit an engineer designated by the board to determine the point of intersection, without prejudice to other issues, after they had served answers admitting that they refused to allow petitioner to comply with the board's decision, and after an order to show cause why a temporary crossing should not be granted had been served. Held, that the consent was properly disregarded in granting the temporary crossing.

8. An appeal from an order granting a railroad a temporary crossing over the track of other railroads in a proceeding for the appointment of commissioners to determine the compensation, etc., for a permanent crossing, is not an appeal from a final order, and therefore a specification in the notice of appeal of an intention to bring up intermediate orders for review is not effective for such purposes, as Code Civil Procedure, Sec. 1301 and Sec. 1358, relate to appeals from final orders.—(*Oneonta, C. & R. St. Ry. Co., vs. Cooperstown & C. V. R. Co., et al.*, 83 New York Supp., 308.)

WISCONSIN.—Street Railways—Franchises—Right to Use Streets—Rights of Abutting Lot Owners—Condemnation.

1. Rev. St. 1898, Sec. 1862, expressly authorizes municipal corporations to grant to street railway companies the right to use streets or bridges within the corporate limits for the purpose of laying tracks and running cars thereon. Held, that such grant by ordinance, being legislative in character, is not subject to revision by the courts at the suit of an abutting owner on the ground of inexpediency.

2. An ordinance granting use of streets to a street railway company only covers such rights as the Common Council has power to grant, and does not affect the right of the abutting lot owners, who own the fee to the center of the street, subject only to the public easement, and whose rights may be condemned as authorized by Rev. St. 1898, Sec. 1863a, as amended by Laws 1899, p. 537, c. 306, amended by Laws 1901, p. 686, c. 465.

3. A street railway company authorized by ordinance to construct its tracks on a public street, the fee to which is in the abutting lot owner, cannot burden the street with its tracks without obtaining the consent of such lot owners, or resorting to condemnation proceedings.—(*Langc vs. La Crosse & E. Ry. Co.*, 95 N. W. Rep., 952.)

FINANCIAL INTELLIGENCE

WALL STREET, Sept. 23, 1903.

The Money Market

A sharp recovery in sterling exchange has been the incident of the week in the money market. This movement, as it bears intimately on the question of the autumn money supply, is worthy of careful observation. It has not been occasioned, as might ordinarily have been expected, by any further hardening of foreign money rates. On the contrary, the foreign situation has improved over a week ago. Both the Bank of England and the Bank of Germany reported large additions to their surplus resources for the week ending last Thursday, the former institution having now regained an equal ratio of reserve to liabilities with a year ago. Neither of them found it necessary, in view of their stronger financial condition, to make a further advance in their discount charge. Consequently rates for money in the open markets have relaxed a trifle, and exchange has moved in favor of London, so far as the continental cities are concerned. That our own rates for sterling should have gone up rapidly, in face of these developments, indicates that the exchange market at this time is governed by other influences. The factor of most importance is the relatively small export trade in staple products, due entirely to the fact that prices for our cotton and grain have been forced so high by speculation that Europe is withholding its usual purchases. The figures for cotton particularly show that for September so far, the movement has been one of the smallest of recent years. Exports of wheat are less than half what they were at this period of 1902. These conditions are naturally reflected in an abnormal scarcity of commercial bills, and bankers who sold exchange short a fortnight ago, expecting to be able to cover when supplies should have become larger, have had to bid up rates sharply during the last week in order to complete their contracts. The practical consequences of all this are that gold imports as a possibility for our market have been rendered remote, and can no longer be counted as a probable auxiliary for bank reserves this autumn. In other respects the situation is unfolding along the lines that were suggested a week ago. Currency shipments to the interior, although still considerably less than last year, are increasing slowly. The Treasury is drawing heavily as the result of the enormous import trade, and there is no offset, either immediate or prospective, in sight. Last Saturday's bank statement showed a further loss of over \$4,000,000 in cash holdings, and the surplus reserve was reduced to \$13,000,000. Owing to the liquidation in industrial stocks, on the Stock Exchange loans decreased for the first time in five weeks, and this made the bank exhibit rather brighter than it would have otherwise been. It must also be remembered that the present surplus compares with a deficit of \$1,300,000 last year. But, as already remarked, the stronger condition of the banks can hardly mean more than that the exhaustion point of surplus reserve will be postponed beyond the time that it has been reached in the last few preceding years. There has been no change in call money rates, which are still governed by the slackness of the demand from speculative quarters. Call money is quoted at 2¼ per cent. Time money rates, however, have hardened decidedly during the week. Sixty-day loans have been marked up from 4½ per cent to 5 per cent, and loans extending over the first of the year from 5½ per cent to 6 per cent on good mixed collateral.

The Stock Market

Interest in the Stock Exchange dealings has converged this week upon the industrial quarter of the market, which has been extremely unsettled by heavy liquidation, and a severe decline in United States Steel issues. This fall began with the sinking fund 5 per cent bonds which were adversely affected by the call for the extension of the underwriting syndicate which was to have expired on October 1, but has now been renewed for another nine months. Apparently some of the syndicate members have suddenly unloaded their allotments of the bonds, causing the sharp break which first attracted attention to the steel group. The movement in this quarter, however, has been completely overshadowed by the great weakness disclosed in the common stock, which, breaking all previous low records, sold down on Monday as low as 16⅞. There is still a great difference in opinion as to the real cause of trouble in these securities: some authorities feel sure it foreshadows an early re-

duction, if not a passing altogether of common share dividends. Other people believe that it is a forerunner of price-cutting and a general reaction in the steel trade, while others still, interpret the decline to liquidation not based on either of these causes, but simply due to the necessities of overburdened capitalists who are selling out their holdings of steel in order to protect their commitments elsewhere. We are inclined to accept this last as the correct analysis of the situation. Matters reached an acute stage at the end of last week in an incipient panic on the Pittsburg Stock Exchange, which is the home market for many of the steel industrials. In New York a strong bear party seized the opportunity afforded for a general attack upon the industrial shares, selecting particularly the securities of the steel-producing and steel-using companies. Owing to the extraordinary extent to which United States Steel issues are distributed in the hands of small investors, possibly no single event of the season has had a more unsettling effect upon general sentiment in the market than has their downfall during the past ten days. Had not liquidation already gone to great lengths in other directions the effects would unquestionably have been more serious. As it is, the railroad shares, although holding comparatively steady, have, as a rule, declined, and the reassuring news from the harvests has fallen flat. Regarding the crops, it may be said that only ten days more of uncertainty remain before corn can be considered out of danger. Some damage was done by the heavy frosts in certain sections a week ago, but it does not appear to have been at all serious, and, in fact, the whole question of the crops will soon be eliminated from Wall Street discussion. The condition, as we have described it, in the money market offers an unanswerable argument against new speculation for the rise, and in this way it becomes also a contention against any important advance in prices during the immediate future. But what the market is now most anxiously concerned about is the outcome of events in the steel and other industrial stocks, and it is upon their course that the immediate movement in the general list seems more particularly to depend.

Dealings in the local traction group have been less conspicuous altogether than they were a week ago. Manhattan and Metropolitan were marked down sharply while the turmoil in the steel stocks was at its height, but there was no special significance to their decline. No further demonstration was attempted against Brooklyn Rapid Transit, although the extreme reluctance of these shares to recover must be disappointing and discouraging to their holders. The best opinion is that recent selling of Rapid Transit stock has come from rather important speculative sources, probably from certain large speculators who started in some time ago to bull the stock, and have now elected to take heavy losses rather than to continue their hopeless enterprise. The publication yesterday of the new franchise tax valuations for the year attracted some discussion, as it showed an increase of \$16,000,000 in assessable values. But, until a more detailed statement is given out it is, of course, impossible to tell how this extra burden is distributed.

Philadelphia

Prices have generally moved downward during the week in the Philadelphia market. Philadelphia Company common, affected like other speculative issues by the violent decline in Lake Superior securities, sold down from 39⅞ to 38¼, the lowest figure on record. All the stocks affiliated with the Rapid Transit Company have weakened, under the influence of the company's rather disappointing annual report. Although gross earnings showed an increase of \$1,300,000, and total income an increase of \$500,000, this was more than offset by additional fixed charges which left a surplus of only \$408,000, as compared with a surplus of \$1,078,000 in the fiscal year of 1902. Rapid Transit stock declined from 14 to 13½, Philadelphia Traction from 96 to 94½, and Union Traction from 44 to 43¾. An unfavorable report for the year was also issued by the American Railways Company, in which net income was shown to have decreased \$28,000. Following its publication the stock fell two points from 45 to 43. The only other transactions recorded were in Consolidated Traction of New Jersey from 61 to 60, and Chicago Union Traction at 5.

Chicago

Liquidation confined to scattering lots has been the feature of the week in Chicago. Metropolitan Elevated common sold down to 18 and the preferred to 55, both of these being new low records. Northwestern preferred broke to 60 and South Side also made a new

low level, declining from 96 to 94. The weakness in all these cases results not so much from selling pressure as from a total absence of buying orders. Lake Street Elevated has also been weak, declining a point to 5½. There are no new developments in the reorganization proceedings of this company, but the latest advices from Chicago indicate that attempts to rehabilitate the company by means of an assessment on the stockholders will not succeed, and intimate that the road will eventually pass into the hands of interests identified with the Northwestern Elevated. It is said by those who have seen the figures for the eight months ending August 31, that the earnings for the City Railway for the current fiscal year will be substantially larger than those of the previous year. The stock has been steady at 175. Only one or two sales have occurred in Chicago Union Traction at 5. The full effect of the more liberal use of surface transfers on the North and West sides has now been felt, and no further increase in surface competition is to be expected until the franchise matter is settled and the several systems radically improved. This will probably be a matter of some years, so that the elevated roads do not have to fear yet awhile that their business will be cut into by the surface lines.

Other Traction Securities

Very little of consequence has occurred in the Boston dealings during the week. Trading in Massachusetts Electric, which ordinarily is fairly active, has been next to nothing. The common stock sold down to 19¾ and back to 20, while the preferred has changed hands between 78½ and 79. West End common sold as high as 90½, and later at 88¾ "ex" the dividend. The preferred sold at 108. Boston Elevated, on fractional lots, went from 137 to 137½, down to 136, then back again to 137. In Baltimore the liquidation in the United Railway issues noted for sometime past has continued. There is a good deal of talk that the company in replacing its old rails with new, may have to dispose of some more bonds in order to pay for the improvements. Although officials of the road deny this the market has taken the attitude of anticipating another bond issue. The income bonds accordingly have declined from 62¼ to 62½, the general mortgage 4s from 90¼ to 89¼, and the stock from 10½ to 10. Other Baltimore transactions for the week include Northern Traction 6s at 106, City & Suburban 5s at 112, and City Passenger 5s at 106½. On the New York curb the week's dealings in the Traction securities have amounted to almost nothing. Sixty-five shares of Interborough Rapid Transit sold at 97, and 300 shares at 95½ to 95¾, 125 St. Louis Transit sold at 17½, and a small lot of Washington Traction & Electric preferred at 39.

The Cincinnati market showed slightly improved activity over last week. About 500 shares of Cincinnati Street Railway sold at between 129½ and 130¼. Detroit United sold to the extent of 140 shares, opening at 70 and closing at 68. Two hundred Toledo sold at 22½, a very low figure. Columbus Railway preferred sold at 100½, and the common at 89; both small lots. There was considerable activity in traction bonds. Eighteen thousand dollars' worth of Mansfield Railway, Light & Power Company's 5s sold at 101, \$14,000 worth of Zanesville Railway, Light & Power at 101, and \$11,000 worth of Columbus, Delaware & Marion at the same figure. Toledo, Bowling Green & Southern 5s brought 97½ for \$6,000 worth, Northern Ohio Traction 5s brought 99, while Columbus Railway 5s brought 105.

It was one of the quietest weeks on record in Cleveland. The total sales numbered less than 200 shares of stock. Northern Texas Traction declined two points, selling at 32¾. Northern Ohio Traction sold at 18 for small lots, but the offerings at that figure were in excess of the demand.

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	
	Sept. 15	Sept. 22
American Railways	43½	43
Aurora, Elgin & Chicago	a20	a20
Boston Elevated	137	137
Brooklyn Rapid Transit	38¾	37¼
Chicago City	*170	170
Chicago Union Traction (common)	5	4½
Chicago Union Traction (preferred)	32	30
Cleveland Electric	69	a70¾
Columbus (preferred)	—	—
Consolidated Traction of New Jersey	59	60
Consolidated Traction of New Jersey 5s.....	104¾	104½

	Closing Bid	
	Sept. 15	Sept. 22
Detroit United	68	66¼
Elgin, Aurora & Southern	a42	a42
Lake Shore Electric	—	—
Lake Street Elevated	5¾	5¾
Manhattan Railway	133	132½
Massachusetts Electric Cos. (common).....	20	19
Massachusetts Electric Co. (preferred).....	78	78
Metropolitan Elevated, Chicago (common)	18	18
Metropolitan Elevated, Chicago (preferred)	55	53
Metropolitan Street	113¾	112
New Orleans (common)	10¼	10
New Orleans Railways (preferred)	30	30
North American	75	76
Northern Ohio Traction & Light	17¾	16
Philadelphia Rapid Transit	13½	13½
Philadelphia Traction	96¼	94½
St. Louis Transit (common)	18	17
South Side Elevated (Chicago)	95	94
Syracuse Rapid Transit	a30%	—
Syracuse Rapid Transit (preferred)	a76½	—
Third Avenue	108	108
Toledo Railway & Light	20	20
Twin City, Minneapolis (common)	91¾	—
Union Traction (Philadelphia)	43%	43¾
United Railways, St. Louis (preferred).....	68	65

a Asked. b Last sale. * Ex-dividend. † \$10 paid.

Iron and Steel

The record of the iron trade continues to be much the same as in the past few weeks. Consumption is enormous—it is estimated at the rate of 19,000,000 tons of pig iron per annum—but production is larger still, and the furnaces are competing actively for orders. No further cuts, however, have been announced in prices, although more are expected in the immediate future. The finished branch of the industry continues in a flourishing condition. The settlement of the labor troubles in the building trades promises to add greatly to the volume of business in structural material, which is already very heavy. A more active demand is also observable in wire products, with conditions favoring higher prices. Quotations are as follows: Bessemer pig iron \$17 to \$17.35 a ton, Bessemer steel \$27, and steel rails \$28.

Metals

Quotations for the leading metals are as follows: Copper 13¾ cents, tin 27¼ cents, lead 4¾ cents, and spelter 6 cents.

PROPOSED SUIT BY JERSEY CITY QUASHED

The onslaught against the Jersey City & Bergen Railroad Company by the Mayor of Jersey City has received a severe set back by the Attorney-General of New Jersey, who characterizes as next to outrageous the attempt of the Mayor to compel the company to apply for new franchise rights, because the claim is made that the company's charter expired nineteen years ago, and that the company is in default of car license fees imposed in its charter. The company is now controlled by the Public Service Corporation, recently organized, and pays local taxes in Newark, and a car license in addition. It seems that negotiations with the Mayor were conducted by the company in a friendly spirit until it was seen that the whole thing was a most unfriendly move. Then the company prepared to combat the attempt to usurp its rights. Before the case could be begun by the city, however, the Attorney-General had to be fully informed as to the issue, it also being necessary to secure his consent to launch the contest. The Attorney-General, as soon as application had been made to him, positively refused to countenance the suit, and flatly refused to permit the issue to reach the courts. In disposing of the case he declared that he is convinced of the impropriety of the attack upon the company, because Jersey City, by the passage of an ordinance, permitted the lessee of the Old Jersey City & Bergen Company to expend a large sum of money in transmitting its motive power on the assumed existence of its corporate existence. A mortgage, he declares, was several years ago placed upon the property and franchise of the company and its allied roads to secure millions of dollars worth of bonds now held by individuals, banks and institutions of all kinds. During all this time Jersey City has remained silent. Very recently a large amount of new capital has been invested in an enterprise of which the railroad is an important constituent. And, concluding, the Attorney-General says: "It would, it seems to me, be very unwise and injudicious at this late day to hazard the risk of loss of confidence and public alarm that might and would probably arise from the exploitation of the suggestion, based, as it is, upon a mere technicality, whose legal force does not impress me, and for these reasons I feel constrained to refuse the application."

ANNUAL REPORT OF THE AMERICAN RAILWAYS COMPANY

The annual report of the American Railways Company for the year ending June 30, 1903, has just been made public. Besides the general operating figures, and the balance sheet, details are given of the holdings of stock by the company. The report shows that the gross earnings of the subsidiary companies were \$1,245,298, an increase of \$238,802 in excess of 1902. This is a gain for the year of more than 23 per cent. After paying all fixed charges, interest and taxes, the net income was \$274,692. Dividends were paid to the stockholders of the company amounting to \$223,774, leaving a balance of \$50,917 to be added to the credit shown in 1902, of \$330,865, which makes the surplus, June 30, 1903, \$381,783. The holdings of stock are given as \$3,709,300, while the holdings of bonds are given at \$599,991. The total par value of the stock and the bonds is given as \$4,309,291, and the cost is given as \$3,493,256. The stock owned by the subsidiary companies is given as follows: Bridgeton & Millville Traction Company, \$116,525; Altoona & Logan Valley Traction Company, \$247,150; Du Page Construction Company, \$3,400,000. The bonds owned by the subsidiary companies are given as follows: Bridgeton & Millvale Traction Company, \$250,000; Du Page Construction Company, \$2,600,000.

The figures of earnings, as given in the report, follow:

Year ending June 30—	1903	1902
Gross sub-companies	\$1,245,298	\$1,006,496
Income		
Interest on bonds and dividends on stocks.	274,073	207,608
Miscellaneous income	148,954	162,776
Gross income	\$423,028	\$370,384
Deductions from income—		
General expenses	37,079	31,146
Printing, etc.	1,027	5,534
Legal expenses	1,977	1,705
Taxes	8,310	3,386
Interest on bonds	99,428	25,427
Department, office, etc.	503	393
Total deductions	\$148,336	\$67,652
Net income	274,691	302,731
Dividend (American Railway stock)	223,774	178,178
Surplus	50,917	124,552
Profit and loss, balance June 30.	381,783	330,865

The general balance sheet follows:

ASSETS

June 30—	1903	1902
Cost stocks and bonds	\$3,493,256	\$3,468,196
Bills and accounts received	3,938,998	2,830,400
Tax on capital stock to Dec. 31, 1901		1,687
Office furniture, etc.	3,168	2,792
Engineering department, instruments	1,359	744
Discount loans not due	5,308	3,492
Interest on bonds owned	15,000	15,000
Dividends declared, not due (stock owned)		
Du Page Construction Co., advertising		
Bridgeton & Millville extension		
Port Norris extensions, etc.		234,586
C. & J. E. Railway Company, construction	213,495	
Collateral Trust 5 per cent bonds, in treasury		910,000
Cash	42,582	67,303
Total	\$7,713,171	\$7,534,264

LIABILITIES

Capital stock	\$3,903,000	\$3,751,000
Collateral Trust 5 per cent bonds	2,448,000	2,500,000
Bills payable	890,000	875,000
Bills audited	28,702	11,036
Vouchers	22,305	
Account insurance fund	25,890	29,442
Interest accrued on bonds	10,200	6,625
Interest accrued on floating debt	110	3,730
Taxes accrued	3,180	
Balance due sub-companies		26,564
Profit and loss	381,783	330,865
Total	\$7,713,171	\$7,534,264

ANNUAL REPORT OF THE PHILADELPHIA RAPID TRANSIT COMPANY

The annual report of the Philadelphia Rapid Transit Company for the year ending June 30, 1903, was made public at the annual meeting of the company, held last week. This is the first annual report of the company, and the figures of the Union Traction Company and its constituents are taken for purposes of comparison. The receipts from passengers show an increase for 1903 of \$1,308,574, while the earnings from operation show an increase for 1903 of \$476,020. The gross income for 1903 showed a gain of \$485,860. The net earnings, after licenses and taxes had been deducted from the gross income, were \$398,999. The net profit for 1903 showed a decrease of \$672,151, but the obligation of the company to the Union Traction Company and its constituents must, of course, be considered. The operating figures follow:

OPERATIONS OF THE PHILADELPHIA RAPID TRANSIT COMPANY FOR THE YEAR ENDING JUNE 30

	1903	1902
Receipts from passengers	\$15,277,806	\$13,969,232
Operating expenses	7,234,892	6,402,338
Earnings from operation	\$8,042,914	\$7,566,894
Miscellaneous receipts, interest, etc.	158,766	148,925
Gross income	\$8,201,680	\$7,715,820
Licenses and taxes paid and accrued	990,702	903,841
Net earnings	\$7,210,978	\$6,811,979
Fixed charges, paid and accrued	6,805,089	5,733,939
Net profit	\$405,889	\$1,078,040

REPORT OF TREASURER OF THE PHILADELPHIA RAPID TRANSIT COMPANY FOR THE YEAR ENDING JUNE 30, 1903.

RECEIPTS

Capital, instalment on shares	\$3,079,370
Passenger receipts	15,268,634
Chartered cars	9,173
United States mail	38,872
Real estate (rents)	18,788
Advertising	61,250
Miscellaneous	258,112
Bills receivable	31,750
Interest	25,022
Open account	1,250,000

DISBURSEMENTS

Bonus on charter and organization expenses	\$20,040,971
Fire insurance fund	\$115,325
Pay rolls	850,000
Operation, construction and equipment accounts	5,102,114
Stocks of underlying companies	5,383,400
Advances to leased lines	1,578,059
Sundry advances	323,188
Advances to agents	135,687
Taxes and licenses	10,500
Fixed charges	625,571
Real estate purchased	5,267,399
	334,213
Total	\$19,725,456

Balance \$315,514

THE BALANCE SHEET, AS OF JUNE 30, 1903, FOLLOWS

ASSETS

Cash	\$315,514
Cash in agents' hands	10,500
Fire insurance fund	850,000
Advanced to leased lines	323,188
Supplies	905,599
Construction and equipment	2,013,459
Real Estate	334,213
Accounts receivable	128,568
Sundry stocks	1,578,059
Franchise account	115,325
Total	\$6,574,425

LIABILITIES

Capital stock	\$3,000,000
Second instalment account capital	79,370
Accounts audited, but not due	307,719
Fixed charges and taxes accrued	1,954,392
Open accounts	827,055
Profit and loss	405,889
Total	\$6,574,425

During the year approximately twenty-five miles of new lines were built, some being extensions to existing lines and others entirely new railways. Of the new railways, Fifty-Eighth Street and Sixtieth Street, running from Woodland Avenue to Lansdowne Avenue; Allegheny Avenue, from Glenwood Avenue to Kensington Avenue, and the Torresdale Avenue line, running from Orthodox Street to Cottman Street, have been put in operation. Twenty-three and one-half miles of track were renewed during the year under review, the materials used in all cases being much heavier than used in the original construction. There was also laid during the year 550,564 lineal feet of duct conduits.

The power equipment has been increased by 1500 kw. A number of new cars of the large type have been added to the equipment.

The only reference made to the elevated railway and subway, from Sixty-Third Street and Market Street, to Delaware Avenue and South Street, was that plans have been prepared and work begun on the road, and the statement that "the properties on the east side of Front Street, from Market Street to Arch Street, have been acquired."

PROGRAMME OF THE NEW YORK STATE STREET RAILWAY ASSOCIATION

As already announced in these columns, the twenty-first annual convention of the New York Street Railway Association will be held this year at the Yates House, Syracuse, on Oct. 6 and 7. A list of the papers and the subjects to be discussed at the meeting was published on page 568 of the issue of Sept. 12. The executive committee is very desirous to have a large attendance, and has requested the announcement be made that supply men are particularly invited and will be tendered a cordial welcome. There will be space provided for small exhibits in the writing room and rotunda of the hotel. Applications for space should be addressed, with full particulars, to Philip J. Honold, care Syracuse Rapid Transit Company, Syracuse, N. Y.

Syracuse is always an attractive city to visit, and particularly so at this period of the year. The Syracuse Rapid Transit Company has made a number of improvements in its system during the past two or three years, so that, from a street railway standpoint, the visitor to the city will find a great deal to interest and instruct him in a study of the street railway system. The general entertainment programme has been drawn up under the direction of Mr. Connette, the popular general manager of the Rapid Transit Company, and is a most attractive one. The complete programme follows:

PROGRAMME

TUESDAY, OCT. 6—

9:30 a. m.—Meeting of the executive committee

10:00 a. m.—Meeting of the Association.

Order of business:

1. Roll call.
2. Approval of minutes.
3. Address of the president.
4. Report of the executive committee.
5. Minutes of the special meeting of the executive committee.
6. Report of the treasurer.
7. Reading of papers on practical street railway subjects and discussion of the same.
8. Miscellaneous business.
 - (a) The appointing of nominating committee.
 - (b) Nomination of officers.
 - (c) Election of officers.
 - (d) Selection of place of next meeting.

ENTERTAINMENT

10:30 a. m.—A committee of ladies will meet visiting ladies in the parlors of the Yates Hotel, to accompany them on a trolley ride in parlor car "Syracuse" over the lines of the Syracuse Rapid Transit Railway Company to points of interest. The trip will end at Onondaga Valley, where luncheon will be served.

2:30 p. m.—Tally-ho coaches will be in waiting to take the party to the Onondaga Indian reservation and Green Lake Park. This will be a trip through a picturesque and beautiful country. If the weather is unfavorable other entertainment will be provided.

8:00 p. m.—Annual dinner, Yates Hotel.

WEDNESDAY, OCT. 7—

9:30 a. m.—Meeting of the Association.

1. Unfinished business.

2. Reading of papers and discussion of same.

12:00 m.—Adjourn.

ENTERTAINMENT

9:30 a. m.—The ladies will be given a trolley ride in special cars to Edwards' Falls over the lines of the Syracuse & Suburban Railroad Company. Special cars will leave the corner of Fayette Street and Montgomery Street.

1:00 p. m.—A trip to Skaneateles on special cars over the line of the Auburn & Syracuse Electric Railway Company. This route is designated the "Scenic Route," as very picturesque landscapes can be seen along this line. On arrival at Skaneateles arrangements have been made to take the party on the steamboat "City of Syracuse" for a trip on Skaneateles Lake, one of the most beautiful lakes in Central New York. The cars for this trip will leave promptly at time designated, and all who desire to go must be on hand promptly.

5:30 p. m.—A Bohemian luncheon will be served at Long Branch, on the line of the Syracuse, Lakeside & Baldwinsville Railroad, and there will be music and dancing in the very fine daneing parlor; also those desiring to bowl will find a first-class bowling alley at this point, which will be free for the use of all delegates wearing badges.

SPECIAL

As soon as the guests arrive at the hotel and register, a badge will be supplied by the Association, which will entitle the wearer to free transportation during the convention on the lines of the Syracuse Rapid Transit Railway Company, the Auburn & Syracuse Electric Railway Company, the Syracuse, Lakeside & Baldwinsville Railway Company and the Syracuse & Suburban Railroad Company.

TRANSFER SWINDLE AT BOSTON

The Boston & Northern Street Railway Company seems to have run down an extensive scheme to defraud the company by means of bogus transfer slips. Several employees have already been arrested, and more will probably be implicated before long. It is said that no less than five plates have been traced to different parts of Boston, and that the majority of the conductors have been guilty of handing in the bogus slips. Reports from some quarters say the loss to the company has been heavy, but President Sullivan, of the company, is quoted as saying that it does not amount to more than \$10,000.

INDIANA COMPANY TO AWARD CONTRACTS

The Kokomo Railway & Light Company, of Kokomo, Ind., will receive bids up to Oct. 14, 1903, at office of the company and the Indiana Interurban Construction Company, in Kokomo, for the complete construction of power house, sub-station and installation of all machinery and all equipment. Detail plans and specifications covering this work will be on file on and after Oct. 1, 1903, at the office of the companies. Bids will be received for the whole work complete or in part.

STRIKE AT SEATTLE A FARCE

For the second time within a year the people of Seattle have been inconvenienced, and the Seattle Electric Company has been caused an unnecessary amount of annoyance, through attempts by the local branch of the Amalgamated Association of Street Railway Employees of America to tie up the street car lines of the Seattle Company in the hope that the demands of the men for new conditions of service would be acceded to by the company. Last March the first fiasco was witnessed, and on Sept. 9 the second comedy was gone through. The strike of Sept. 9 was declared because President Furth, of the company, flatly refused to grant the demands made or to submit them to arbitration. These demands included recognition of the union, the reinstatement of all men discharged by the company because of their connection with the union since the strike last March, a wage scale of 30 cents an hour, time and a half for overtime and on legal holidays and other unimportant demands. Of the 600 employees it is said that seventy-five abandoned their cars. The service was not affected materially, and there are no reports of intimidation or violence.

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 SEPT. 15, 1903

738,773. Car Truck; Edward Cliff, New York, N. Y. App. filed May 2, 1903. The bolster floats upon two leaf-springs arranged transversely of the truck beneath each end of the bolster, said springs being supported upon swinging links.

738,774. Car Truck; Edward Cliff, New York, N. Y. App. filed June 10, 1903. A modification of the preceding patent.

738,883. Car Brake; Thomas E. McCollum, Toronto, Can. App. filed Nov. 10, 1902. Relates to a "momentum brake."

738,840. Car Truck; Edgar Peckham, New York, N. Y. App. filed March 28, 1901. Relates to the manner of mounting a spring support for the bolster; other features are claimed.

738,841. Truck; Edgar Peckham, Kingston, N. Y. App. filed Sept. 25, 1902. An improvement of the preceding patent, relating to the construction of the side beam.

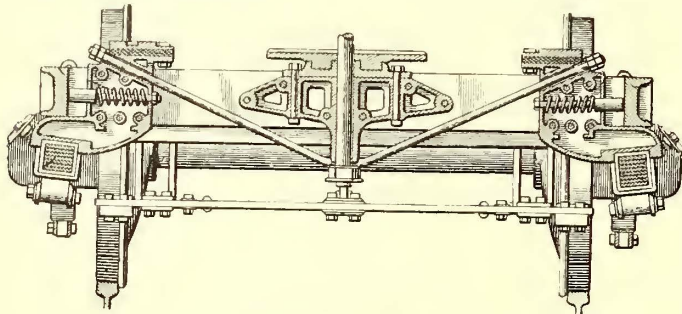
738,856. Brake-Shoe; Alfred L. Streeter, Chicago, Ill. App. filed March 23, 1903. A two-part brake-shoe, each part having a malleable iron loop to form an attaching lug with its ends up-turned and embedded in the cast metal of the shoe.

738,900. Automatic Car Fender with Brake Attachment; William K. Given, Pittsburg, Pa. App. filed Jan. 2, 1903. Means whereby the brakes are automatically applied when the fender comes in contact with an obstruction.

738,906. Track Instrument for Railway Signaling; Lewis R. Hummel, Omaha, Neb. App. filed Aug. 29, 1902. The flange of a car wheel tilts the cover of a box placed beside the rail and alters the condition of a circuit closer in the box.

738,919. Suspension of Trolley Wires; Martin T. A. Kubierschky and Paul Herkner, Berlin, Germany. App. filed June 8, 1903. Grooves for the reception of the ends of the wires having keys therein which engage the wires and increase their grip with the tension on the wires.

738,926. Trolley; Harry E. Myers, Kittanning, Pa. App. filed Oct. 13, 1902. A pair of pivoted guards mounted on the trolley



PATENT NO. 738,841

head and having extensions projecting across the periphery of the wheel to keep the wheel on the wire.

739,017. Car Mover; Richard Miller, Appleton, Wis. App. filed Dec. 9, 1902. Details of construction.

739,032. Electric Railway; Willis N. Stewart, London, England. App. filed Nov. 24, 1902. Main and auxiliary motors carried by the train, the former being supplied by storage batteries and the latter taking current from an overhead conductor at points only where additional power is required.

739,056. Make and Break Switch for Electric Signals; Charles B. Campbell, Waterloo, Iowa. App. filed Jan. 20, 1903. Details of a make and break switch to be operated by contact of a trolley wheel.

739,057. Automatic Signal for Electric Railways; Charles B. Campbell, Waterloo, Ia. App. filed Jan. 20, 1903. Details.

739,066. Circuit Breaker for Automatic Electric Railway Signals; Roy A. Doty, Waterloo, Ia. App. filed March 31, 1903. A mechanism which will, without short circuiting, break the circuit through the signal lights after a predetermined number of cars have left a track section upon which they have been moving.

739,074. Railway Vehicle; George Gibbs, New York, N. Y. App. filed Dec. 8, 1902. The frame of the car is of metal as is also the outside sheathing, the lining being non-metallic, non-splintering and non-combustible or of slow-burning composition.

739,135. Car or Other Vehicle-Stopping Device; Joseph P. Angell, Pine Bluff, Ark. App. filed April 14, 1903. A skid having portions to be engaged by and to extend beneath a vehicle wheel, and a wheel or roller journaled on the skid adapted to simultaneously engage the wheel and the rail, said skid being normally held above and in advance of the car wheels.

739,164. Trolley; Elmer E. Frederick, Easton, Pa. App. filed April 30, 1903. Three metal balls set in ball bearings in a trolley harp between which the wire runs.

739,179. Trolley Alarm and Indicator; William H. Hillyer, Atlanta, Ga. App. filed July 19, 1902. An indicator showing the conductor or motorman when the trolley is off the wire.

739,223. Trolley Harp; Harrie A. Ripley, Westdale, Mass. App. filed Jan. 26, 1903. Details.

PERSONAL MENTION

MR. JAMES MURDOCK, of Lafayette, Ind., one of Indiana's most prominent electric railway promoters, and the head of the syndicate owning the traction lines at Richmond, has returned from an extensive visit to Germany. Mr. Murdock appears to be much improved in health.

MR. H. H. HUNT, manager of the Tampa Electric Company, of Tampa, Fla., has been called to the home office of Stone & Webster, in Boston, to take charge of their southeastern group of properties as district manager. Mr. G. W. Wells has succeeded Mr. Hunt at Tampa.

MR. WILLIAM S. BARSTOW, consulting electrical engineer, announces that he has removed his offices to 56-58 Pine Street. (Suite 1100, 1101, 1102, 1103), New York City. Mr. Barstow will continue to give special attention to the engineering and development of electrical properties.

MR. FREDERICK A. WRIGHT, a well-known railroad man of New York City, died at his home in Brooklyn last week. He was at one time a general superintendent of the Brooklyn City Railroad Company, and later was in charge of the claim agents' department of that corporation.

SIR DAVID BARBOUR, Lord Ribblesdale, Mr. George Gibb and Sir J. Dickson Poynder, members of the Royal Commission of London Street Traffic, which was appointed last July to study American street railway systems, sailed for New York Sept. 18 on the White Star Line steamer "Arabic."

MR. J. S. YOUNG, general passenger agent and assistant superintendent of the Toledo Railways & Light Company, of Toledo, has resigned from that company to become auditor of the Rapid Transit Company, of Chattanooga, Tenn., controlled by the United Railways, Light & Water Company, of Philadelphia, Pa.

MR. HENRY E. HUNTINGTON arrived in Los Angeles, Cal., Sept. 5, on a brief trip of inspection of the properties of the Pacific Electric Railway Company, the Los Angeles Railway Company and the Los Angeles Traction Company. He has but recently become interested in the latter system. The plan is to raise it to the same standard of excellence that characterizes his other lines at Los Angeles.

MR. FRANK S. CUMMINS has been appointed chief engineer of the Interurban Railway Company and the Des Moines City Railway Company, of Des Moines, Ia. Mr. Cummins pursued his engineering course at the University of Wisconsin, and has been connected with the Chicago, Rock-Island & Pacific Railway and the Des Moines, Iowa Falls & Northern Railway. The Interurban Company has 40 miles of line in operation, and will build between 30 miles and 50 miles more.

MR. WALTER L. ADAMS has been elected general manager of the Milford & Uxbridge Street Railway Company, of Milford, Mass., succeeding Mr. E. W. Goss. Mr. Adams formerly was superintendent and purchasing agent of the Montville Street Railway Company, and the Norwich Street Railway Company, of Norwich, Conn. He was connected with the Norwich Company from 1892, when he came from Newburyport, Mass., where he was interested in street railway work until July, 1903. When the Montville Company was organized in 1900, he was appointed to act for that company also.

IMPORTANT CHANGES have been announced in the officials of the Allis-Chalmers Company. Mr. G. O. Dixon, of Scranton, Pa., has been appointed general manager of all the plants in the combine. Mr. Dixon was formerly at the head of the Scranton company, which became a part of the engine-building combine. Mr. David Harlowe, of Milwaukee, formerly superintendent of the Clinton Street works of the E. P. Allis Company, in Milwaukee, has been named as general transfer manager of the company, with authority at every plant. Mr. William P. Harper, assistant purchasing agent of the company, has been promoted to general purchasing agent. This position has been held by Mr. H. F. Young, of the Gates Works.