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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.*

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**THE STREET RAILWAY PUBLISHING CO.,**  
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**The Chicago Grooved Rail Ordinance**

An amusing example of how legislation on technical and engineering matters can sometimes slip through without catching the attention of anyone not sufficiently posted on such matters to have its absurdity pointed out is afforded by the ordinance which has been in existence in Chicago for some months, which specifies the form of grooved rail to be used on new tracks laid by the street railway companies. The form of grooved rail specified is a guard rail as designed for use on curves only. The man who drafted the ordinance must have taken the first section he found that looked anything like a grooved rail and stuck it in the ordinance. How such an ordinance could pass without catching the eye of the city engineer or commissioner of public works it is difficult to see, but perhaps is on a par with the Indiana legislature bill which made the ratio of the diameter of the circle to the circumference 3.2. Of course, when it came to a question of laying these rails, the street railway companies called the attention of the city authorities to the fact that guard rails for curves were utterly impracticable for straight line work. The commissioner of public works, in consequence, has made a report to the Council that a grooved rail should be adopted which would not prove as costly and unserviceable as that ordered by the Council two years ago.

**Shorter Hours**

Many of our readers will recall that delightful remark of Charles Lamb when remonstrated with at the old India House for coming so late in the morning: "He tried to make up for it by going away earlier in the afternoon," or words to the same charming effect. The new Greater New York commissioner of bridges, Mr. Lindenthal, seems to be in very much the same frame of mind, for he suggests that the crush on the Brooklyn Bridge could be lessened "if people will leave their homes a little earlier in the morning, or their offices in the afternoon, before the great rush comes." Now that is excellent philosophy and a really happy thought, but after all, how many Brooklynites can live up to it? The latest census statistics show that the tendency to be late in bed in the morning is as strong in 1902 as it was in 1802; and, besides, the milkman cannot be hurried. Then in the afternoon, most of us would like to break away about 3.30 and do a spin in the parks in an automobile, or up to the speedways behind a pair of spanking trotters; but somehow our consciences, our chiefs and our creditors hold us down to the desk until the rush lines are formed; so we have all to take our part in the "strenuous life" that exhibits itself about 5.30 to 6.30. Of course President Greatsinger is responsible for all this, but we might hint to our friends on the daily press that he is no lover of such Matterhorn peaks in the load as show up in the rush hours, and would like nothing better than to have the travel spread equally and evenly. Possibly he has a lurking regret that half the population does not work days, while the other half works nights.

**Assaulting a Car**

In Europe, it is generally understood, a person who gets run over is at risk also of being punished for causing the accident. Up in Montreal a motorman of French extraction, recently arrested, must wish that some such law applied there. It appears from the narrative before us, that one night about 9 o'clock, when he was running his car up St. Denis Street, he saw a woman leave the sidewalk in the middle of a block and start to cross the street. There was barely room to stop, and he was afraid that if he tried to stop she would be struck by the fender; also he thought she would see the car and keep off the track. He therefore decided to go on, and would have got past safely, but the woman, who was not looking in front of her, actually ran against the side of the car. The shock threw her down, and she received some slight scratches, which may, perhaps, have hastened her death from pneumonia, which she was suffering from at the time. The jury heard the evidence, and much to the coroner's surprise decided

on a verdict of criminal homicide against the motorman, because he did not stop when the woman left the sidewalk. Now, while we are sorry for the woman, that seems hard on the motorman. As the evidence shows, the woman actually ran headlong into the car. If every motorman is to stop every time a pedestrian near by leaves the sidewalk, street railway companies may as well go out of business, or at least may as well give up trying to maintain a schedule. The implication otherwise as to the utter irresponsibility of foot passengers is the height of the absurd and ridiculous.

**Niagara Power**

For some time past the public has been familiar with the fact that the energy of Niagara is largely used in the vicinity of the Falls to propel street cars, and is also transmitted in bulk to Buffalo for similar work there. Over on the Canadian side also is to be found an excellent trolley road paralleling the river from Chippewa to Queenston and driven by Niagara power. The real Canadian development of Niagara energy is only now about to begin, however, the Canadian Niagara Power Company having just ordered from the General Electric Company three huge generators of 10,000 hp each, 12,000 volts. These machines are in nominal rating the biggest of their kind ever built, and aside from their size and the high pressure generated within the armature, they are also interesting because of the fact that while attached to turbines on a vertical shaft the field will revolve and be inside the armature. In this the machines are of course a distinct departure from the present Niagara generators. For this preliminary 30,000 hp little local use is apparent, and this gives color to the reports that a good deal of it is intended for street railway and lighting work in Toronto. In reality, steps are already being taken in that progressive Canadian city to handle the power on its arrival. The distance is around eighty miles, and California has long since proved that a power transmission of that range is well within practical work. If Toronto, why not Rochester, where curiously enough, a large steam electric plant has just been put down close to the Genesee Falls, in the belief that it can compete on equal terms under existing conditions, all the available water power being taken up. If Niagara were called in to redress the balance the Rochester cars might well hum to its music, and we should hate to see the Toronto cars be the recipients of Niagara's limitless bounty and Rochester excluded. An eye must be kept on our enterprising Canadian friends.

**Returning Fares**

It is without doubt very annoying to be delayed on a street car trip, but the suggestion that the operating company should be mulcted or fined under any circumstances for blockade seems lacking in the elements of equity and justice. We note however that an amendment to the railroad law, designed to secure to passengers on street railroads in New York City the return of fare when blocks or delays occur, has been introduced in the Assembly by Mr. Richter. It provides that in case the car in which a passenger is riding is delayed ten minutes or more, the fare must be returned if requested. However, another provision of the law gives the company authority to issue, in lieu of the money paid, tickets or coupons entitling the passenger to a ride on the lines of the corporation at any time. A penalty of \$25 for violations of the act is provided. Now the difficulty with all such measures lies in their application, and it is easy to see that many difficulties and troubles would arise in the execution of this scheme. No account is taken of the exterior cause of delay—a fire, fallen horse, an explosion, a snow storm, a parade—nor of the complications between conductors and passengers. Besides, if the principle is right, it is as right for five minutes' delay as for ten; but the proposed law recognises no salvage below 9.59%. The loss and the inconvenience to a street car system arising from such a delay are quite overlooked, the idea or spirit of this legislation being that the company really takes a delight in having its cars stalled. The flat rate of fare that prevails in America in

reality waives aside, by mutual consent, the question of the distance covered, and hitherto, so far as we are aware, has taken no account of time. We have never heard of the application of such a law on steam railroads, yet it may be suspected that a very large average of trains fail in keeping to the advertised schedule; while a street car has virtually no schedule so far as the public is concerned, and simply starts out to do its best each run.

**Condition of Chicago Cable Lines**

Mayor Harrison, of Chicago, recently delegated to City Engineer Erickson the task of reporting on the physical condition of the cable lines operated by the Chicago City Railway and the Chicago Union Traction Company, the Mayor's talk at the time being that he was going to get definite data with which to force the companies immediately to give better service on the cable lines without waiting for franchise renewals. The findings of the report, however, affords little assistance to the Mayor in his attempts to force the companies to do to-morrow what it will take several years of reconstruction and refinancing to accomplish. It mainly states some of the cold engineering facts which have been evident to an unprejudiced scientific observer for some time and which the street railway companies have reiterated many times. One of these findings is that the present cable systems are being worked to the limit of permissible overload and even above, and that provisions for properly handling traffic cannot be made without a change of electric traction, or putting in more downtown loops. The report states that the present cable conduits could not be used for an underground trolley system because the yokes are not strong enough. This came as somewhat of a surprise to those like Mayor Harrison, who demand a great change in a week. There having been many breakdowns or interruptions to traffic on the Northside cable lines the past year, Mr. Erickson made that a feature of his report, and here are the figures unvarnished by the daily press:

Accidents to various Northside cables.....	16
Accidents to rolling stock and equipment, delaying for four minutes .....	156
Delays caused by overloaded and broken vehicles on the tracks .....	1,084

From this it is seen that the greater part of the breakdowns with which the road is credited are due to no fault of the companies. While the car and cable breakdowns are high, it is to be considered that the burning of one of the large car houses necessitated the hustling out of a lot of old worn out rolling stock and that the cables are overloaded. The point of interest is that the greater part of the delays could be prevented by proper municipal regulations well enforced as to the driving and loading of teams. As to the impossibility of using the present cable conduits for underground trolley conductors, it has been evident to those familiar with the subject for years that the use of present cable conduits for such a purpose would be extremely bad engineering aside from the question of mechanical strength of the yokes and conduit. It is a very common occurrence to see a cable conduit two-thirds full of water in that city. Operations under such conditions in New York has been found out of the question, all reports to the contrary notwithstanding. Whether it would be possible by entirely rebuilding the conduits and enlarging all the sewers, draining the streets on which conduit is placed, is not by any means certain, because the level character of the city makes rapid drainage difficult. If the underground trolley is practicable in Chicago it will only be by virtue of a modification of the sewer system at enormous expense. The trial of the underground trolley on the downtown streets of Chicago, however, seems imminent in view of the state of public opinion there as to the terms of franchise renewals.

**Super-Strenuousness**

A list of the apostles of "the strenuous life" during the last century includes many of the highest thinkers and noblest actors in modern affairs, and their inspiring words and acts, as well as

those of their disciples, have advanced human progress and activity and have been a source of inspiration to many in the battle of life. Followers of this doctrine, so long as they confine their efforts within reasonable limits, win the admiration of their fellow citizens; but there is a point where the strenuous life begins to become a nuisance and beyond this point develops into what has been wittily denominated as "super-strenuousness." This term was originated, or at any rate was introduced to the public last week, in an after-dinner political speech by the Hon. John S. Wise, the well-known lawyer of New York, who will long be remembered by street railway companies for the prominent part which he played during the early development of electric railways, by defending their legal status against telephone damage suits. As defined by Mr. Wise, the word "super-strenuousness" means a form of lunacy in which the victim imagines that his duty consists in opposing and legally attacking anybody and everybody whose acts happen to run counter to his own preconceived and often absurd notions of legal or civic ethics. In carrying the diagnosis further it will be found that super-strenuousness, although prevalent to some extent in all conditions of life, is a malady to which certain city officials are particularly subject, and it is here that this particular form of insanity directly affects the public more than when its possessor occupies a private capacity in the community. The symptoms of this disease in the case of a public official, such as a District Attorney or Mayor for example, especially when it is accompanied with or complicated by megalomania, are usually violent attacks against public service corporations of various kinds and demands that such corporations introduce radical innovations or impossibilities in their methods of operation. All such changes are urged nominally for the benefit of the public, but, in reality, are of such a nature as to hamper the service of these corporations so that they are unable to give as good facilities in the way of transportation to the public as they could do if they were more free.

This disease is not confined to any one section of the country, nor to large cities, but is perhaps more noticeable in officials selected from that portion or class of the community which considers that it has a monopoly of all the political wisdom and virtue of the nation and that the future salvation of the city, town, or body politic to which its members belong demands the elevation to office of them or their adherents. The fact that persons afflicted with this trouble act on mistaken notions of justice does not mitigate the seriousness of the results of their action; in fact, it tends to aggravate them in that it causes them to retain the sympathy to a considerable extent of the unthinking portion of the community until every section of their fellow citizens has been subjected to annoyance or attack through their misguided efforts in the direction of super-strenuousness.

**Replacing Wheels**

One of the important items in the wheel account is the cost of replacing wheels. More accurately speaking, it is the cost of taking out one pair of wheels and putting in another pair. In this cost are included the items of pressing off the old wheels and pressing on the new.

Almost all roads keep records showing the cost of "taking out old wheels." The figures differ so widely that an expert would never be able to identify them on an account sheet. The improvement which has taken place in shop facilities during the last half-dozen years, however, has greatly reduced the average expense and time of this operation. It is, nevertheless, even in the best shops, sufficiently costly to have a material bearing on the cost of wheels and the value of a guaranteed mileage.

Opinions on the cost are interesting, though they do not always form a safe basis for estimating. They are of value because they show how men feel in regard to this item of expense. On one large system one of the men in charge of a shop estimated that he could replace wheels for \$1.50 per pair. Several gentlemen from Eastern roads thought it would cost them about \$3.50. From

some of the smaller roads estimates reached \$5, and it was conceded that on the lines which were generally lacking in facilities the expense could not be less than \$6.

The following figures, furnished by Mr. Bodler, of the North Jersey company, are interesting because they show accurately what may be done when every detail of the operation has been brought down to the lowest practicable figure. The facilities of the shop are of the most complete kind:

Raising and lowering the body, double-truck car.....	\$10
Replacing gear.....	.62
Replacing gear pan.....	.16
Oiling two boxes.....	.08
Handling driving wheel.....	.34
Pressing off one pair.....	.09
Pressing on one pair.....	.10
Fitting wheels at 8 cents each.....	.16
Facing wheels at 8 cents each.....	.16
Total .....	\$1.81

The above figures, as stated, are for handling driving wheels. For the pilot wheels of a maximum traction truck some of the items would disappear, while the cost of "handling" would be reduced from 34 cents to 24 cents.

Raising and lowering the car body by hand, if the power jacks were not in operation, would cost 24 cents, instead of 10 cents. It will be understood that these are piece-work prices, and that the figures given are those actually paid out for labor. There is nothing charged for use of machinery nor for wear and tear. There ought, perhaps, to be an item covering the time that the car is out of service. The figures given above, of \$1.81 for taking out and replacing driving wheels is probably as small as can be found on any of our large street railway systems. The \$3.50 which has often been stated as the average cost may be accepted as not far out of the way for roads with fair facilities.

These figures have a most important bearing on the value of wheels to a road, and the form of guarantee most advantageous. When these wheels are required to make a given mileage, \$7 must be added to the cost of the wheels to pay for replacing those worn out in obtaining the mileage. Slight differences in the price per wheel cut no figure whatever compared with durability. A wheel which will average 40,000 miles is much cheaper than a guarantee for 80,000 miles which requires an average of three wheels to make it good. The North Jersey Company for example would find the 40,000 mile wheel cheaper by \$1.81 than the other. For roads possessing less perfect appliances the advantage of the 40,000 mile wheel in money would be still greater, ranging from the average of \$3.50 to the maximum of \$6. In other words, buying merely on mileage may give a road a large number of wheels for its money and a very poor bargain as well.

As already stated, there is another item that under some circumstances may be of considerable importance. That is the delay of the car caused by sending it to the shop for repairs. As facilities are more limited the time required for changing wheels increases and cars are kept out of service long enough to make the delay inconvenient. This should have a monetary value assigned it. On large systems with central shops where the fitting is done the item of transportation properly comes up for consideration. It is true that when the wheels come out many other things usually receive attention, so that the cost of sending the cars from their regular lines to the repair shop does not get much consideration. On a large system, to send a car from a branch to the central shop 5 miles away and to bring it back again is an item large enough to need attention, and part of it at least should appear in the wheel account.

One thing is highly desirable, every item going to make up the cost of changing wheels should be known and should appear in the cost of wheels. If this were done it would be more easily possible to determine the exact cost of car wheels per 1000 miles run or per 1,000,000 miles run, which, to the street railway manager, is much more important than the price per pound.

### Construction of the New Car House of the Chicago City Railway

The new car house now being completed at Seventy-Seventh Street and Wentworth Avenue by the Chicago City Railway Company is attracting much interest among street railway men visiting Chicago, because it embodies in material form the ideas as to what is best in car house construction resulting from the years of practical experience in such matters enjoyed by Captain Robert McCulloch, general manager of the Chicago City Railway, and his associates.

"The car house is being built as well as we know how to build it," said Capt. McCulloch, and an inspection of the work in progress and completed shows that this is very well indeed.

The Chicago City Railway some time ago purchased the entire block of land bounded by Seventy-Seventh Street on the north, Seventy-Eighth Street on the south, Wentworth Avenue on the east and

of glass tile. The only wood in the construction of the building is in the window casings.

The construction of tracks and pits is especially notable. While the arrangement is not new, the construction employed to carry out the arrangement is rarely as thorough as in this case. The entire space under the car house is a continuous open pit, broken only by the iron pillars 6 feet apart under each rail. Figs. 2, 3 and 4 illustrate three stages in the process of construction and explain the methods of construction more fully than words. The flooring between pits is a solid concrete arch supported by the flanges of the rails. In Fig. 2 the work has progressed to the stage where the rails (which are A. S. C. E. standard section, 100 lb. T) have been laid on the cast iron columns which support them. These columns are placed 6 feet apart under each rail and each rests on a block of stone for a foundation. When the concrete to make the floor of the pit is laid the basis of these columns are buried 6 inches in the

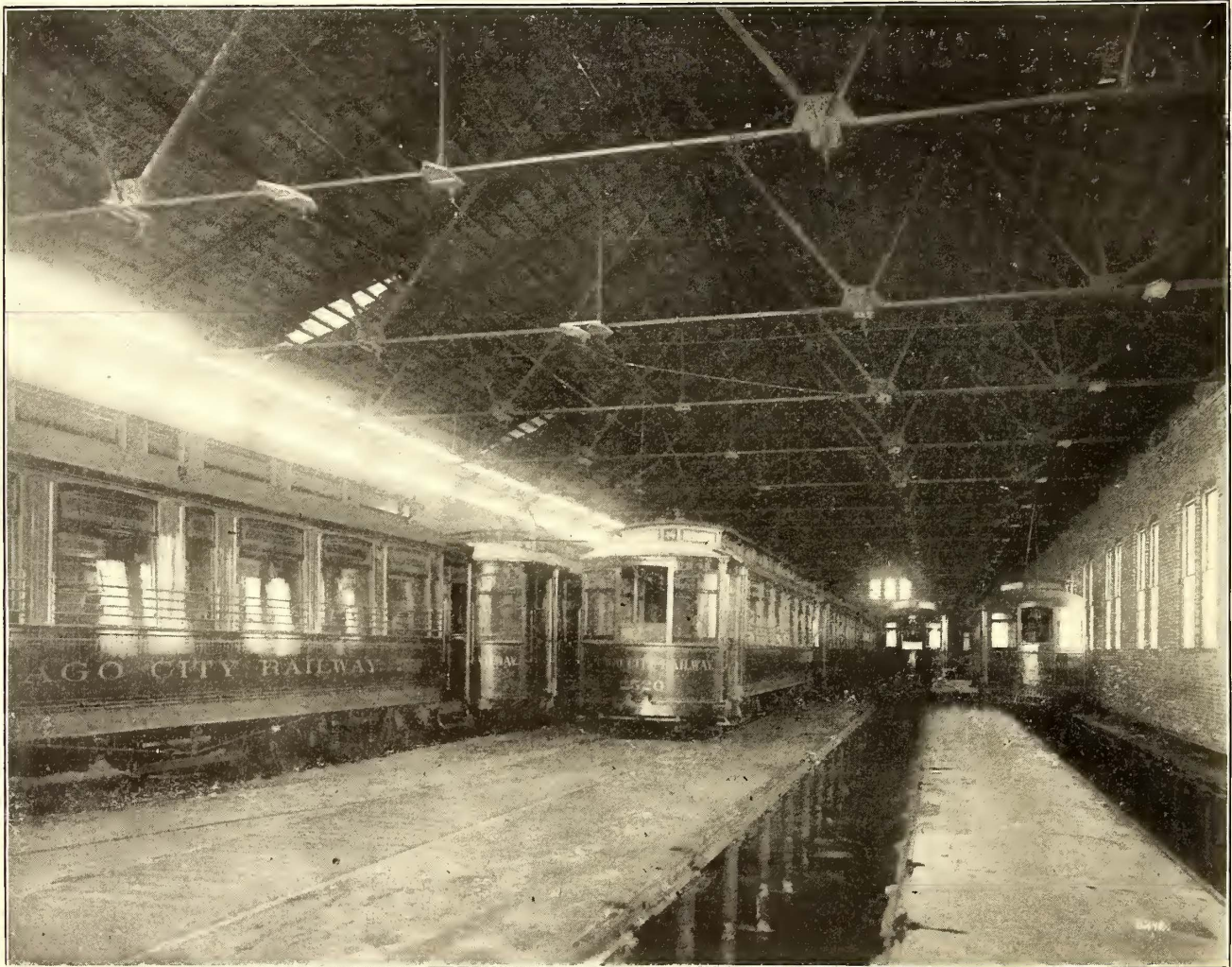


FIG. 1.—INTERIOR VIEW OF NEW CAR HOUSE

Vincennes Road on the west. This leaves room not only for more than doubling the present large car house which has over two miles of storage track, but also for the general repair shops of the road which are to be built adjoining the present car house. The present repair shops at Twentieth and Dearborn Streets are dark and antiquated and entirely unsuited to a modern electric road. The new tract of land is located on the open prairie not far from the suburb of Auburn Park at the southernmost part of the Chicago City Railway Company's territory.

The car house now being built consists of six bays, with five tracks in each bay. Each bay is separated from the adjoining ones by a brick wall through which there is but one door for the passage of workmen from one bay to another. Each bay is therefore independent of the others as far as fire is concerned. The length of each of the tracks in a bay is 353 feet and a bay gives trackage enough to store thirty-four of the new long double-truck cars, such as were recently put on the Wentworth Avenue line and for the storage of which this car house was built. The capacity of the entire car house will therefore be 204 cars. The construction of building adopted is shown in the accompanying general view of the interior of one bay, Fig. 1. The roof is of French A tile supported on iron framework. In the roof are a number of diamond-shaped skylights

concrete floor. The rails are held on top of the columns by four bolts of special design, which have heads like a railroad spike for holding the flange of the rail. Between the rails which support the concrete arch floor the rails are kept from spreading and letting down the arch by  $3\frac{1}{2}$  by 3 inch angle-irons, as seen in Fig. 2. In Fig. 3 the temporary wood floor work for supporting the concrete arches before they dry is partly in place, and in Fig. 4 the completed floor, with temporary floor removed, is shown. A wire net is laid in the middle of each of these concrete arches. The arches are given a crown of 1 inch between rails for good drainage in washing cars. This crown is not necessary for strength, but only for drainage. The pits are 4 ft. 6 ins. deep, measured from the top of the rail. The use of concrete arches and iron-supporting pillars gives a greater head-room in the pit between tracks than could be secured by the common practice of placing stringers under each rail.

The pit floor is designed for quick drainage and has a number of sewer connections to which all water used in car washing will be run. Down the center of each bay is a 2-in. water pipe with frequent hose connections for car washing.

The tracks are spaced 11 ft. between centers which gives plenty of room to walk between the widest cars used. There are no transfer

tables. The cars enter from the eastern or Wentworth Avenue side over switches and curves entirely outside the house. Entrance is had from the outside to four of the five tracks in a bay. The fifth or middle track cannot be entered directly from the street, but is reached by cross-over switches placed near the doors. These doors are the Kinnear rolling type and each 27-ft. door covers two tracks, leaving but one pillar (in the middle) at the car house entrance. At the west end of the house it is expected some time to build another house of greater capacity than this and the tracks will be continued through to the new house. At this end there is a Kinnear rolling door for each track.

The overhead construction at the entrance to the house would have been very complicated had regular pull-offs been used at each curve into the house. Fig. 5 shows the arrangement which was adopted, the curves in the foreground having been completed, the span wires only being shown in the background. The plan as shown is to run span wires through both ways at right angles to each other and hang the trolley wire curves from these.

Very little repairing will be done in this car house, but in one corner of some of the bays will be two sets of hydraulic jacks for lifting car bodies, so that the trucks can be run out from under. The cylinders of these jacks are in the pit and the pistons (which are shaped on top to receive the cross timbers placed under the car body when it is to be lifted) rise out of the concrete floor between the tracks. The jacks are worked by oil pressure supplied by a pump driven by an electric motor.

Taken altogether, this car house probably represents as thor-

**The Everett-Moore Situation**

In a conversation with a correspondent of this paper, Chairman

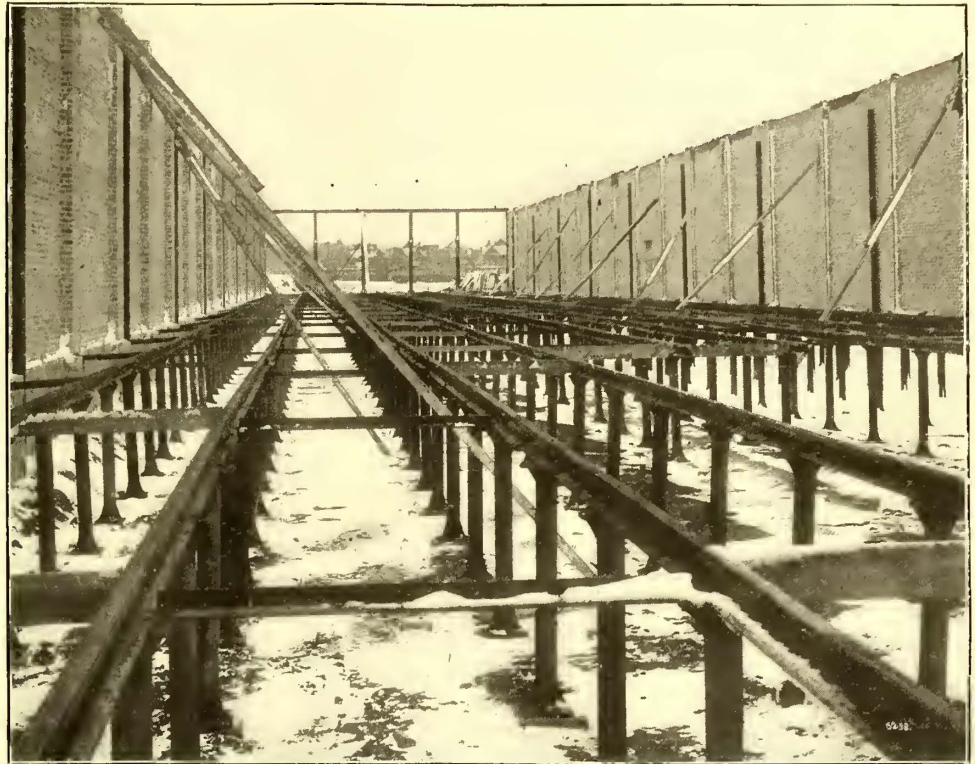


FIG. 2.—BEFORE LAYING CONCRETE FLOOR

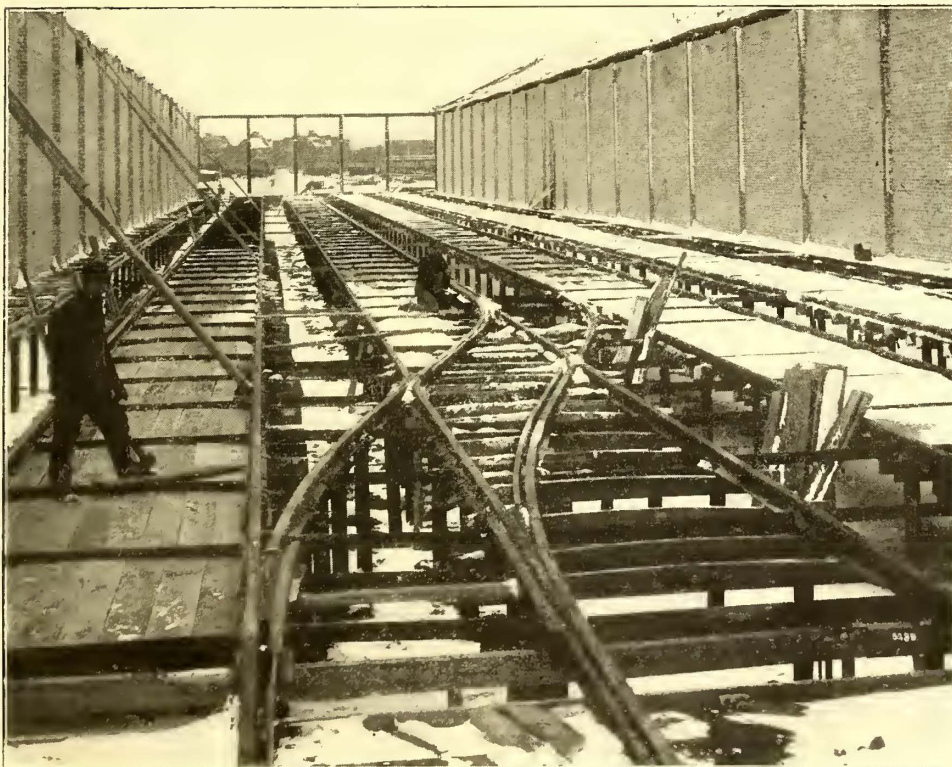


FIG. 3.—GETTING READY TO LAY CONCRETE FLOOR

ough a job of car house construction as can be found in this country. General Manager Robert McCulloch determined upon the various details and C. E. Lund, civil engineer of the company, has had charge of the work.

Newcomb, of the bankers' committee, in charge of Everett-Moore affairs, took occasion to deny the truth of certain alleged interviews sent out in press despatches during the past week. He

stated that he had never intimated that all of the properties owned by the syndicate are to be disposed of in two lumps, and that he had never said that the Elkins-Widener syndicate, of Philadelphia, had submitted a formal proposition for the purchase of the traction properties.

He said that it had never been the intention of either the syndicate or the bankers to dispose of all the properties controlled. The members of the syndicate are now desirous of going out of business and the bankers have no wish to take the ownership of the properties away from Cleveland. It is simply a question of selling enough of the properties to clean up the debts of the syndicate in the quickest and most desirable manner possible. If the sale of the telephone properties will yield the best results, this will be done and the traction properties retained, and vice versa. It is hardly probable that either of the systems will be split up, since they will bring a better figure in a lump. At the same time there is barely a possibility that all of the syndicate holdings may be sold; that is if sufficiently attractive figures were offered. But in view of the general situation it is hardly possible that propositions will be made large enough to warrant selling out everything.

It is admitted that representatives of the Elkins-Widener syndicate are going over all of the traction properties with a view of determining their worth, in order that a proposition for their purchase may be made, but no propositions have yet been submitted to the committee with this end in view. As a matter of fact the committee will not be officially in charge of affairs until all con-

sents to the extension have been turned in by creditors. The procrastination of some of the bankers who are creditors is preventing the committee from taking measures which would bring good

\$300,000 of the unsold bonds on other properties have been sold through the efforts of the committee.

Directors of the Detroit United Railways conferred with the committee Saturday and the latter acquiesced to the proposal to execute a \$25,000,000 mortgage on the property of the Detroit United Railways. Of this amount \$15,880,000 will go to secure underlying bonds and the balance will be for future betterments.

On the whole it seems quite probable that the Federal Telephone properties will be disposed of and the entire traction system retained intact. Judge Thomas, representing C. W. Morse and others, of New York, is still keeping in touch with the telephone situation, but within the past few days another group of capitalists, said to be headed by Cincinnati people, are in the field as possible purchasers of the Federal properties. It is stated that they are people who heretofore have had no connection with the telephone business, but who are prepared to carry out all of the plans proposed for the Federal Company. It is generally admitted that Henry Everett and other leaders in the syndicate prefer the disposal of all of the telephone properties rather than the traction interests. Chairman Newcomb states that the sub-committee which has been investigating the affairs of the Federal Telephone Company was treated to a surprise. Although in its infancy, it was found to be a paying investment and it was quite evident that the earnings shown were infinitesimal compared with what they will be when the

property is developed. It is stated that the combined telephone properties are earning \$158,000 over and above all fixed charges and operating expenses.

In the mean time, Everett-Moore securities have shown a de-

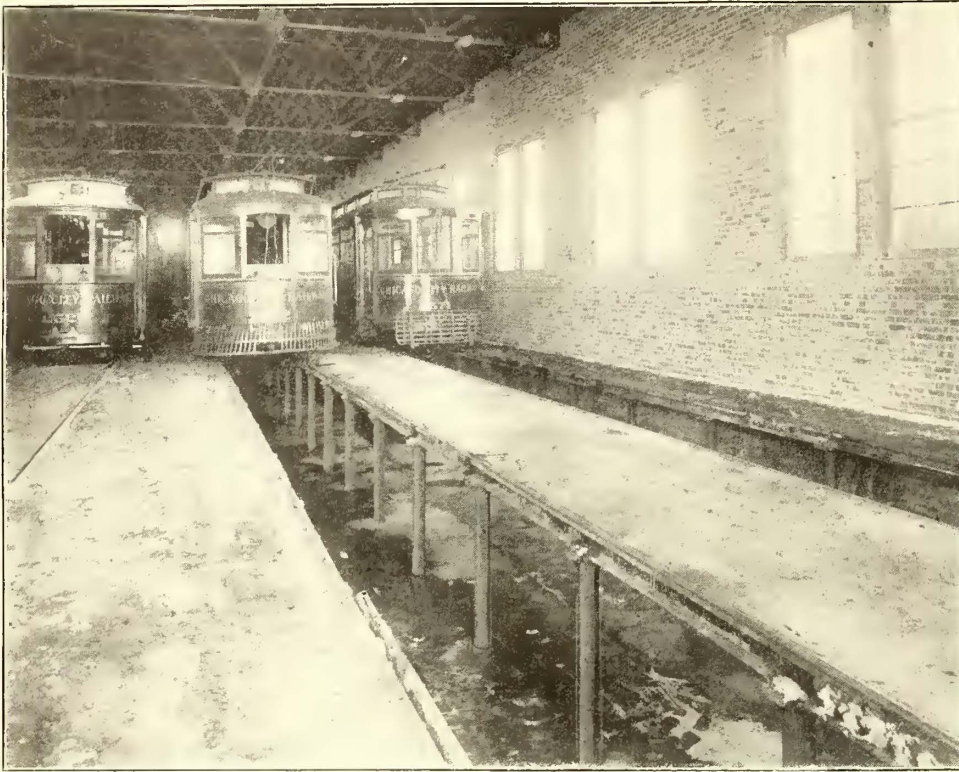


FIG. 4.—COMPLETED FLOOR, CHICAGO CITY RAILWAY CAR HOUSE

results. Practically all of the general creditors have signed an agreement to the extension, but about 20 per cent of the bankers have not yet signified their willingness to sign. The committee is working on these and is also perfecting arrangements to



FIG. 5.—OVERHEAD CONSTRUCTION FOR ENTRANCE CURVES, CHICAGO CAR HOUSE

finance the Lake Shore Electric Railway and the Detroit & Toledo Shore Line.

According to late reports, three propositions have been submitted for the financing of these properties and it seems probable that a deal will be closed up at once. It is believed that the bonds will be taken at a fair figure by a syndicate of Cleveland, Cincinnati, Detroit and Toledo banks. It is also stated that

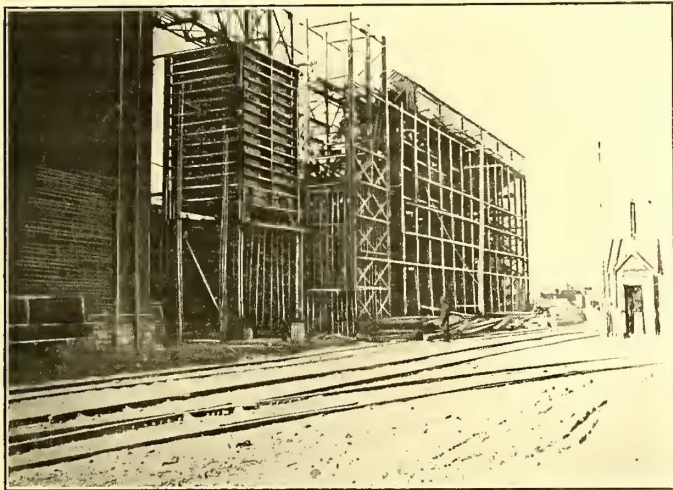
decided improvement on the Cleveland stock exchange. It is said on good authority that the syndicate has refused an offer of 71 by the Cincinnati capitalists for their Detroit United stock.

The developments in the situation are having a good effect on the financial circles of Cleveland. Capital which has been lying idle for several weeks past is again making its appearance and new business ventures are again being pushed to the front.

### St. Louis Transit Company's New Coal Storage

The St. Louis Transit Company is engaged on the construction of a large coal bunker, which will occupy an entire city block north of the Transit Company's new power house at Salisbury and Hall streets. The new power house of the company is practically finished, but until the coal storage house is ready for use the station cannot well be put in operation. The bunker is 185 ft. long x 33 ft. 6 ins. wide and is fitted with the McCaslin gravity bucket conveyor with 18 in. x 24 in. malleable iron buckets, made by the John A. Mead Company, of New York.

The line of buckets are carried down one side of the pocket and along the same side as the hopper openings from which the coal is withdrawn for use. To assist in an even distribution of coal in the pocket the usual plan would be for the buckets to discharge



NEW COAL STORAGE HOUSE IN ST. LOUIS

their contents on inclined aprons which would deflect the coal to near the middle line of the building. To avoid the possibility of coal dust collecting in the opposite corner of the pocket, however, the novel plan was followed of substituting for aprons inclined screens made of  $\frac{1}{2}$ -in. iron rods, 11 ft. long and spaced  $\frac{1}{2}$  in. apart. This arrangement prevents the coal dust from accumulating in the further end of the pocket, where it might occasion spontaneous combustion, and allows it to drop near the points of delivery, while the larger pieces are deflected toward the further side of the pocket.

In the illustration the building, a corner of which is seen at the left, is the power house. Next to it are the hoist and the elevated road. The tall shaft next to the right is the framework of the crusher, to the right of which in turn is the coal pocket.

### Connecticut Railroad Commissioner's Report

The report of the Railroad Commissioners of Connecticut, dated December, 1901, has recently been issued, and is the first report made since the street railways of that State were placed under the supervision of the Railroad Commissioners. The report shows that for the first six months of the year embraced in the report, viz., from June 30, 1900, to Dec. 31, 1900, there were twenty-seven operating street railway companies; for the last six months, viz., from Jan. 1, 1901, to June 30, 1901, there were only eighteen operating companies. The decrease in the number of operating companies is accounted for in the organization of the Connecticut Railway & Lighting Company, no less than nine companies being merged into that company.

The total mileage of the street railways in operation and reporting for the year ending June 30, 1901, was 492,227 miles, exclusive of sidings, and 515,835 miles including sidings, making the length of sidings 23,608 miles. These figures, when compared with those of the previous year, show that the track mileage of main track increased 21,257 miles and that there was a decrease of 5,153 in the total length of sidings.

The financial returns of the Connecticut Railway & Lighting Company are excluded from the Railroad Commissioners' summary for the State, the reason being that gas, electric lighting and other returns not applicable to street railways are included in its report. Of the returns of this company, a separate itemized report is made in which the total capital liabilities of the company are placed at \$24,425,000, namely, \$15,000,000 capital stock, \$9,350,000

bonded debt, \$75,000 floating indebtedness. Excluding the Connecticut Railway & Lighting Company, the following figures are given as gross for the State: Capital stock of all companies, comprising 340,055 miles, \$8,137,948, being \$23,931 of capital stock per mile of road; total bonded debt \$6,908,000, being \$20,314 per mile of road; total floating indebtedness \$822,593, being \$2,419 per mile of road; cost of construction and equipment \$15,816,288, being \$46,510 per mile of road constructed, excluding sidings; gross earnings \$3,629,783, being \$7,162 per mile of road operated and \$0.2001 per mile run; operating expenses \$2,298,063, being 62.11 per cent of the gross earnings; net earnings \$1,332,076, the net earnings per mile operated being \$2,627, and per mile run \$0.0735.

Eleven of the twenty-seven operating roads paid dividends amounting to \$283,300 upon capital stock amounting to \$6,005,000, while no dividends were reported as paid on \$2,132,948 of capital stock.

The number of car miles was 18,138,124. The average cost of operation per car mile was \$.1266.

The total number of passengers carried was 78,222,462, as compared with 54,235,707 carried by the steam roads. The number of paying passengers per mile of main track operated was 136,137, and the number of paying passengers per mile run was 3.80.

## CORRESPONDENCE

### How Should Wheels be Bought?

PHILADELPHIA, Feb. 4, 1902.

EDITORS STREET RAILWAY JOURNAL:

I read with interest the letter by W. L. Wright on cast-iron wheels in your last issue and your editorial comments on the subject of the purchase of wheels on a mileage basis. This question of the best way to purchase wheels is one which you could with advantage have said more about, because it has not only troubled a great many street railway companies, but for years was also a bugbear of steam road men, and though the latter have settled their troubles fairly well, the solution of the problem is of little use to the street railway manager.

We may assume that in the end the best way to buy wheels will be that which is fair to both parties—the wheel maker and the wheel user. This result is not so anomalous as might appear at first sight.

The manufacture of cast iron wheels for street railway service is one of peculiar mechanical difficulty. The science is not well understood except by a few. The service in which street railway wheels are used is the most severe known in the arts, coming as it does close to the limit of the material. Hence the wheel is a costly and unsatisfactory element of the street railway system. Necessities and unnecessary limitations combine to make the life of a wheel not only short but exceedingly uncertain.

Naturally the relations between makers and railways are in the highest degree uncertain. The railway says constantly that the price must be lower. The wheel maker says it should be higher. And since both have good reasons on their side, and both are in a sense entirely in the right, an improvement in their relationships is not only desirable but necessary.

Although street car wheels are generally bought by a guarantee of mileage, the contracts vary in numberless details. Sometimes the mileage has been mere guesswork on the part of the companies. Incredible as this may seem, one of the great street railway systems of the country has not known anything about the number of miles which its wheels made. They were guaranteed for a fair life, made about one-half of it, and were supposed by the management to be giving good satisfaction. Now and then the manufacturer made a replacement, but not often.

Other roads playing a sharp game called for a guarantee on every wheel and demanded from the wheel maker the cost of taking out and replacing all wheels that did not reach the proper figure. Such a contract is very unjust to the manufacturer. It results in smaller guarantees and in the end a refusal to continue such a one-sided contract.

A common form of wheel purchase is to get the maker to guarantee each wheel for a certain life. The railway attempts to get a large figure and the manufacturer puts it as low as possible. The road in such a case has to replace all the wheels that fall short of the mileage and the wheel maker has to furnish the new wheels. With good wheels the road makes a large profit because it has the advantage of every wheel that goes above the stipulated mileage. The poor wheel maker has no interest beyond making his wheels come up to the required life. He has no incentive to make the best possible wheel. The bargain is in the nature of a bet as to the life of the wheel, with the odds rather in favor of the railway.

There are other roads which contract for a certain number of wheels to make a certain fixed milcage. This is favorable to the maker. He gets the advantage from all the wheels which show high averages. Most roads claim that they do not get enough out of such a contract and that the profit is all on the side of the wheel maker.

What the street railway man wants is *wheel milcage*. He is paying to have his cars carried safely as far as possible. To do this in the most economical manner the wheel founder finds himself obliged to use expensive material and exercise great skill and care. Now the present forms of contract do not generally take these facts into account. Both parties are uncertain as to what service they are giving, or getting, for the money. In this uncertainty the skidded, broken and cracked wheels should be eliminated, except where faults of manufacture are causes. In the early days of electric railways all defective wheels were sometimes saddled upon the maker, as well as all those ruined by careless motormen. Fortunately those days are past.

Since mileage is what is wanted and because mileage is what the wheel founder has to sell, why not contract for mileage pure and simple. For example, the manager wishes for 100 wheels. The wheel maker says, I will guarantee that 100 wheels shall run 4,000,000 miles and the price shall include the cost of replacing wheels necessary to make this mileage. Or he might say, I will keep these wheels running forever for so many dollars per million miles, replacing all wheels worn out. In such a contract there would be an item covering the cost of replacing wheels, at a price varying with the facilities of the road.

On the basis of paying for the work performed, the wheel founder would be at liberty to make his wheels as cheap or as expensive as he pleased. He could make such a selection of materials as he found profitable. Having, as would be necessary in such a contract, all the scrap he would be able to control his mixtures and could make just such a wheel as would give the best service.

Unskilful wheel makers would be driven into other lines of business, because under such conditions they could hardly compete with those who combined science with skill and experience. There is no probability that there would be any profit in trying to make large mileages with poor short-lived wheels. The cost of replacing such wheels would, on almost on any road, entirely absorb all profit.

This idea is not a new one. It was in effect tried years ago on steam roads. Then it could hardly be successful, because no one road ever had complete control of all its rolling stock. Repairs and replacements were made all over the country. On street railways, where an interchange of cars is unknown, the idea is possible. But there are numberless objections which will be raised. It will be too fair in the eyes of some. It will appear to others in the nature of an interminable contract. Yet when one considers the nature of the case and the desirability of improving the quality of wheels the idea has much to recommend it. The wheel maker needs some change in the method of purchase which will enable him to make as good an article as possible. The present system does not tend in that direction.

On the whole, paying for just what is received is the best business policy, and in the end produces the greatest advantage to both parties. For this reason an amendment of many of the modern forms of wheel contracts is desirable.

That this is the ideal method is shown by analysis of most of the methods now in vogue of buying and selling wheels. The seller says you shall have not less than so much wear. This forms an item in every contract. But the uncertain part is that one man says you may have a large percentage over, another says you may not have less than a certain figure, but the cost of getting it is uncertain. The surplus mileage is in the nature of a bet. The cost of replacing is in the nature of a penalty which the road has to pay.

R. P. MASON.

**Wear of Wheels on Grades**

Feb. 3, 1902.

EDITORS STREET RAILWAY JOURNAL:

The figures given below may be of interest as showing what service wheels will give on a line with steep grades and sharp curves. The records are from five of our cars working on a branch which is very crooked and has many sharp grades. Some of the steepest hills average 9½ per cent for long distances. The cars are mounted on double trucks which have an equalized swing motion and so are quite easy on the flanges in spite of pretty fast running and short curves.

	Wheels from car A	Miles.
Chill worn out.....		22,406
Broken tread.....		24,234
Worn through chill.....		36,328
Sprung axle.....		19,328

	Car B	
Worn out.....		28,555
Worn out.....		27,694
	Car C	
Worn out.....		28,958
Worn out.....		28,809
	Car D	
Worn out.....		30,607
Worn out.....		27,293
	Car E	
Worn out.....		25,332

Wheels worn out were worn until the chill was practically gone. Small flats appeared on many wheels and the places checked and scaled out. This is due to the heat destroying the iron and making it crumble; usually such places appear in pairs, one on each wheel. I have found as many as four on one pair of wheels. The longest flat would not exceed 3 ins. It is necessary to run long distances with the brakes on. Some of the hills are so steep that the brakes have to be put on sharp for their whole length. One pair of flats catching in the shoes are likely to cause another because the cars have to run such long distances with the brakes hard on.

I have sometimes thought it would be an advantage if the motors could be kept in motion and so keep the wheels turning in going down these long hills. At the same time the brakes would be applied almost up to the limit. The current would probably have sufficient power to keep the wheels from skidding.

The mileage of the wheels just given is not a large one. Throwing out the wheel which came out on account of the sprung axle, the average is only 28,000 miles. This does not compare very well with the guarantees which some roads are getting of more than 40,000 miles. Perhaps better wheels might run further, but when the constant application of the shoes to the wheels is considered, I am inclined to think the record is pretty good. If I am mistaken, I should like to have some one, who is working a line consisting largely of heavy grades, publish some figures in regard to the life of their wheels. I should like to know something about the usefulness of the track brakes on long grades, where cars have to make fair rates of speed.

If anyone can operate cars on 7 or 8 per cent grades without getting a heavy crop of flat wheels I wish he would tell the readers of the STREET RAILWAY JOURNAL something about the methods he employs.

SUPERINTENDENT.

**Premiums for Avoiding Accidents in Buffalo**

The premium system for rewarding motormen and conductors which was adopted by the International Traction Company, of Buffalo and Niagara Falls, several months ago, has already proved most satisfactory to both employees and operating company, and on the system, as in use, the company distributed about \$3,500 in premium on Jan. 1, 1902.

The history of the system at Buffalo really dates back to a period before the opening of the Pan-American Exposition. At that time the motormen and conductors of the International Traction Company received variously, 16, 17 and 18 cents an hour, according to their terms of service. Eighteen cents an hour was the maximum rate paid. At the opening of the exposition period those men were notified that an increase of two cents an hour would be made in their wages, owing to the extra work required in caring for the exposition crowds, and that this rate would continue during the period of the fair.

On Nov. 23 another order was issued which caused the wages of the men to drop back a cent an hour. It was understood, however, that the decreased cent an hour would be made up to Jan. 1 to those men whose records were free from accidents during the period between Nov. 23 and the first of the year. Consequently to the men who could show a clean bill for the intervening five weeks the decrease in wages meant nothing, for they received a bonus in the premium to be paid. It was also decided to continue the distribution every six months.

The wages of conductors and motormen, as now computed, are as follows:

During the first year of service, 18 cents per hour, platform time.  
During subsequent years, 19 cents per hour, platform time.

On interurban cars 20 " " " " " "

On each Jan. 1 and July 1 a premium of one cent per hour, platform time, is paid to all trainmen who have no accidents for which the company has been required to pay during the intervening period. In case the total amount paid for any one man's accidents is less than the amount of his premium, he is to receive the difference. The men are also cautioned when unavoidable



accident does occur, to make every effort to secure witnesses in order to prove that they were not to blame.

The expenses charged against accidents, in case they occur and have to be debited against a man's account, include the following items: witness fees and expenses, expert testimony, medical expense, special service, incidentals, office expenses, etc., salaries, salaries of attorneys, court fees and legal expenses. Minor cases of injury, however, either to the company's property or to property for which the company is responsible, where damages did not exceed \$1 or \$2, are not allowed to count against the men's chances of getting the premium, and their record is consequently kept clear.

Payment is in all cases made by check, accompanying which is a "Premium Certificate" signed by T. E. Mitten, general manager, which the recipient is allowed to keep if he desires. This certificate states that the motorman or conductor, whose name and badge number is given, has received from the company the amount specified in the blank as extra remuneration for the period mentioned for careful work in avoiding accidents.

To those who have met with accidents a notice is sent that their account has been debited to the amount stated for the accident specified. The notice states, however, that the company hopes that the recipient will be able to earn the premium during the following six months and expresses the wish of the company in every way to better the condition of the men and to assist in bringing out their best efforts and most careful work, and being willing to remove any just cause of complaint, expects to both merit and receive their loyal support.

The results secured show a decrease of 42 per cent in the number of accidents occurring, and as already stated, the amount distributed of \$3,500 for 5½ weeks, or the period between Nov. 23 and Jan. 1, indicate that a large proportion of the force participated in the premiums. The improvement, however, should not be gaged solely by the reduction in the number of accidents. It is found that the manner in which accident reports are made out and witnesses secured is much more intelligently done than formerly, conductors taking particular pains to give the location of witnesses and expressions used by them at time of accident, from which the company is able to judge of their value as witnesses. Many of the reports of minor injuries are also accompanied by slips signed by the injured person, to the effect that neither the conductor nor the company was to blame. As the men almost invariably explain to the passengers that they are personally interested in clearing the matter up, the result is obvious.

### New Boston Subway Bill Presented

A new bill on the proposed Washington Street Subway in Boston was presented before the Massachusetts Legislature on Jan. 28 by Representative Lewis A. Frothingham. It is the outcome of long deliberation by the Boston Associated Boards of Trade and covers the matter very thoroughly in twenty-four sections.

It provides that the Boston Transit Commission may construct in Boston a subway or subways of sufficient size to provide for two or more tracks through the city, from Broadway to the North End, and adapted to the running of elevated or surface railway trains or cars or both therein, with approaches, entrances, sidings, stations, inclines and connections therefor. The line must run within 750 feet of Causeway Street, North End, and within 1000 feet of the junction of Washington Street and Broadway. It authorizes a branch to the South Station and such alterations or changes in the existing Tremont Street Subway as may be requisite. The commission is empowered to make connections at grade or otherwise with the proposed Cambridge Street Subway, the East Boston Tunnel now under construction, the existing subway or elevated structure in Boston operated by the Boston Elevated Railway Company. All necessary land may be taken by right of eminent domain, and assigned to the ownership of the city suitably registered in the registry of deeds for Suffolk County. No construction work can begin until suitable signed plans have been filed in the city engineer's office. To avoid interruption of traffic as much as possible, work must be carried on in congested districts, as far as practicable, between 6 p. m. and 8 a. m. Property and land damages are to be settled by the commission, unless disagreement ensues, when the Superior Court of Suffolk County is to decide the ease. The members of the commission are not to be personally liable for such damages.

At any time after the completion of the new subway the commission may order removed all surface tracks, poles and wires for the operation of cars thereon from any part of Washington Street between Broadway and Adams Square, except tracks crossing this street. Such orders, however, must be approved by the Board of Railroad Commissioners to be finally valid. In such case, surface tracks shall not be relaid in the sections removed.

All obstructions caused by pipes, conduits, wires, or poles, etc., are to be removed or relocated at the owners' expense. The title of all property taken or purchased for subway purposes is to remain with the City of Boston. The commission may determine number of tracks, and by equipping the subway in part or whole electrically or otherwise, determine whether it shall be used by surface or elevated cars.

The treasurer of the city of Boston shall from time to time, on the request of the commission, issue and sell at public or private sale, bonds registered or with interest coupons attached, as he may deem best, in the name and behalf of said city to an amount not exceeding \$6,000,000. Such bonds shall be designed on their face "rapid transit loan," shall be for a term of forty years and at interest not exceeding 4 per cent per annum, payable semi-annually. The proceeds of these bonds are to be used to meet all expenses incurred in carrying out the Subway Act. The Board of Commissioners of Sinking Funds for the city of Boston shall establish a sinking fund for the payment of the bonds. All premiums received from bond sales are to be paid into sinking fund, and all rents, tolls, percentages or other compensation received from any person or corporation for any use of the new subway rights or lands are to be annually used for meeting any deficiency in the sinking fund requirements, the interest on the bonds and any surplus to be used as a part of the general revenue of the city. The proceeds from any sale of lands occurring within two years from the date of completion are to be credited to the new subway account. The interest on the debt incomes for the construction of the subway is to be considered as part of the cost of construction until operation begins by the subway being open for use. Borings, surveys, maps, plans, etc., of all subway main line branches, stations, sidings, inclines, etc., are to be made immediately after the passage of the act, and filed with the Register of Deeds of Suffolk County. Departure from such plans is permissible at the discretion of the commission. Preliminary expenses are not to exceed \$25,000.

Within sixty days of the filing of these plans the subway may be leased for not over twenty years at a rental of 4⅞ per cent per annum on the cost of construction to the Boston Elevated Railway Company, subject to the approval of the Railroad Commissioners. The subway may be connected with existing electric structures if it be determined that it shall be used solely or in part by the elevated cars of the railway company, but the use of steam as a motive power is forbidden. If the subway is leased by the Boston Elevated it shall be subject to the control of the Board of Railroad Commissioners. At any time within three years from the subway opening, elevated trains may be ordered removed from the tracks and surface cars operated thereon, if the Mayor or ten citizens of Boston so apply and the Board of Railroad Commissioners decide that the public convenience requires such a step, the expense to be borne by the railway company. In case of lease to the Boston Elevated, all rights of the West End Street Railway Company are to be conserved under the 1897 lease.

In case the Boston Elevated Railway Company shall not accept the terms of the act, the subway may be leased under the preceding conditions to some other company upon presentation of a bond of not less than \$1,000,000 and other sureties as required. The motive power may be electricity, gas or compressed air, horses or steam being excluded. Any such company may use the surface tracks and power of the Elevated road by paying rental. The bill extends the term of the Transit Commission to July 1, 1906.

The courts may enforce provisions of the bill if enacted. Construction not to be started until the act is accepted by a majority of voters of Boston and agreement for a lease is made. The act carries a referendum to the municipal election of 1902.

### More New York Horse-Car Lines to be Equipped with Electricity

The Metropolitan Street Railway Company, of New York, is actively engaged in preparing to begin work on the electrical equipment of four of its most important lines now operated by horse-power. The lines on which it is intended to at once change the motive power are the Ninth Avenue, from Fifty-Third Street to the Cortlandt and Liberty Street ferries; the Fourteenth Street, serving a great shopping district; the Grand Street, and the Second Avenue, below Astor Place. The company also expects before the end of this year to equip with electricity the Twenty-Eighth and Twenty-Ninth Street and the Eighth Street lines. For the four lines mentioned, on which the change has been determined, the materials have actually been ordered. The Seventh Avenue line below Twenty-Third Street and the Christopher Street ferry line, which have been equipped for operation by electricity, will shortly be placed in operation.

## New Organization in New York

The Philadelphia *North American* for Feb. 4 says:

"A new company has been formed by the Whitney-Widener-Elkins-Dolan combination to lease the Metropolitan Street Railway system in New York.

"The new organization, as recently stated in *The North American*, will be a securities company, so formed as to permit it to hold the stocks of any corporation. Its capital will be \$30,000,000, which may be increased as necessities arise.

"It is not the purpose of the new company to attempt at this time to effect a consolidation of the other two great New York systems, Manhattan Elevated and Brooklyn Rapid Transit, with the Metropolitan, but it is admitted that such a merger is ultimately hoped for.

"The money raised will be used to turn 100 miles of antiquated horse railway lines that New York still tolerates into a modern underground trolley system.

"The new securities company will guarantee an annual dividend of 7 per cent on the Metropolitan stock, and shareholders of the latter will have the right to subscribe to \$20,000,000 of the new capital at par to the extent of 45 per cent of their present holdings. The entire issue of capital has been underwritten by Kuhn, Loeb & Co.

"The terms of the deal were settled on Monday at a conference in New York, and a formal circular of announcement is now being prepared. This will be issued in a few days. Directors resident in this city decline to give the name of the new corporation, or to say who will be its president. It was asserted positively that H. H. Vreeland, president of the Metropolitan, would not be the head of the new corporation.

"A Philadelphia director of the Metropolitan said: 'A very few days should see the matter in shape to make formal announcement. It was virtually closed up yesterday, and now the circular to be sent to stockholders, explaining the whole plan, is being prepared. This is something which requires care, in order that all may understand just how they stand.

"The object is not to consolidate the Manhattan Elevated and the Brooklyn lines with the Metropolitan, but really to provide means to finance extensions of the latter system and to cover the cost of transforming about 100 miles of line now operated by horses into a modern system operated mechanically. This will be by underground trolley, which, after protracted experiments with storage battery, compressed air and other systems, has proved the cheapest so far found. It is expensive, however, especially in New York, where there is so much rock, and consequently a large amount of money is necessary.

"The present Metropolitan and its subsidiary lines will be leased to the proposed new corporation, which will be a holding company. As organized it will be strong enough to take in the Manhattan or anything else, should such a plan seem advisable at some future time."

On Feb. 5, Messrs. Widener and Elkins, of Philadelphia, are reported to have practically confirmed the authenticity of the statements made, except that the management of the property will be in practically the same hands as those which are now so successfully guiding its fortunes. The officials of the Metropolitan Street Railway Company declined to discuss the matter for publication.

## Important Ohio Bills

Mention has previously been made in these columns of the bill recently introduced in the Ohio Senate to secure the admission of the interurban electric railways into Cincinnati, and while this is a most important measure, several other bills seriously affecting the street railways of the State have recently been introduced in the Senate. The bill that has for its purpose the admission of the interurban lines to Cincinnati is not only of particular interest to that city but is of great import to other Ohio cities, for the barriers that have heretofore prevented the entrance of the interurban lines into such cities of the State as have restricted interurban service will also be removed with the passage of this measure.

A bill providing that no work shall be done on a street railway until the municipal council has granted a franchise, and that all franchises shall contain a clause limiting the hours of service for motor men and conductors to not more than 10 out of 24, has been introduced in the Senate.

A bill which provides that all interurban lines running more than five miles outside of any municipality shall provide their cars with toilet rooms before Jan. 1, 1901, has been introduced in the Senate.

A bill proposed by Representative Bronner provides for the ex-

tension to freight, suburban and interurban railway conductors the police powers now possessed by passenger train conductors. The police powers also to apply to railway platforms when the train is standing at it. The companies employing the conductors are made responsible for their acts.

The long-talked-of bill granting to interurban roads the right of eminent domain, placing them on a par with steam roads, so far as securing right of way and entrance to cities is concerned, has not yet been introduced, but it is understood that it will reach the Senate shortly.

## Annual Report of the Twin City Rapid Transit Company

The detailed annual report of the Twin City Rapid Transit Company for the year ending Dec. 31, 1901, has just been made public. The gross earnings for the year were \$3,173,975.85, an increase of 11.79 per cent, and the net earnings \$1,758,524.15, or an increase of 14.59 per cent over the year 1900. The property was operated for 48.35 per cent of the gross earnings as compared with 49.16 per cent for the year preceding, this covering all charges and taxes, except interest.

After paying all fixed charges and 7 per cent dividend on the preferred stock, there is a balance in the net income of \$881,887.58, being 5.87 per cent upon the common stock as compared with 4.70 per cent for the previous year. From this surplus two dividends of 2 per cent each, amounting to \$600,400 or 4 per cent, have been declared on the common stock, leaving a balance of \$281,486.58, which has been passed to the surplus account and used in part payment of the floating debt and improvements.

The company has sold \$1,000,000 general mortgage 5 per cent bonds, issued under a mortgage of the Minneapolis Street Railway Company and the St. Paul City Railway Company for that amount and dated Jan. 1, 1901, payable Jan. 1, 1911. The proceeds from the sale of these bonds were used to liquidate the balance of the floating debt incurred by the retirement of \$1,000,000 of the St. Paul City Railway Company 6 per cent debenture bonds, maturing May 1, 1900, and to pay the cost of improvements undertaken during the year.

The company sold during the year the balance of the issue of bonds of the Minneapolis & St. Paul Suburban Railway Company (\$50,000), applying the proceeds to the payment of the balance due on account of constructing and equipping the suburban line between Minneapolis, St. Paul, White Bear Lake and Stillwater.

On May 1, 1901, the company canceled \$20,000 of the remaining \$270,000 7 per cent first mortgage bonds of the Minneapolis Street Railway Company by the issue and sale of \$20,000 5 per cent consolidated bonds of the same company.

The company has expended during the year \$646,746 for betterments and other valuable improvements. It has built forty 44-ft. cars and equipped them with four motors and a full complement of modern equipment. The company has also increased the equipment on forty other 44-ft. cars, and has expended \$185,322 in paving streets in connection with its tracks in the cities of Minneapolis and St. Paul.

The balance of floating debt (as per the last annual report) of \$693,365, has been reduced to \$8,625, as shown in this report.

The following is a comparative statement of the liabilities of the company Dec. 31, 1900, with Dec. 31, 1901:

	1901	1900
Total common stock issued .....	\$15,010,000	\$15,010,000
Total preferred stock .....	3,000,000	3,000,000
Funded debt .....	10,888,000	9,838,000
Floating debt, net balance.....	8,625	693,365
<b>Total liabilities .....</b>	<b>\$28,906,625</b>	<b>\$28,541,365</b>

The detailed report of receipts and expenditures, as shown in the report, follows:

RECEIPTS	
Passenger earnings .....	\$3,150,497
Miscellaneous .....	23,478
<b>Total earnings .....</b>	<b>\$3,173,976</b>
EXPENSES	
Maintenance of way and structure.....	\$85,989
Maintenance of equipment .....	179,768
Operation of power plant .....	217,946
Car service .....	646,692
General expense .....	149,798
Legal expense .....	22,999
Injuries and damages .....	97,139
Insurance .....	15,116
<b>Total operating expense .....</b>	<b>\$1,415,452</b>

Net earnings from operation.....	1,758,524
Interest on debt, and taxes.....	666,638
Surplus applicable to dividends.....	1,091,887
Dividends, preferred stock.....	210,000
Dividends, common stock.....	600,400
<hr/>	
Total dividends .....	\$810,400
Transferred to general surplus account.....	281,487
Per cent total operating (including taxes) to total earnings.....	44.60
Per cent total operating (including taxes) to total earnings.....	48.35

The general balance sheet, dated Dec. 31, 1901, shows:

RESOURCES

Roadway, equipment, real estate, buildings, machinery, tools and securities in treasury .....	\$31,606,910
Current assets .....	557,920
Notes and accounts receivable.....	\$99,669.82
Cash in banks .....	373,738.33
Stores—material and supplies.....	84,512.31
<hr/>	
	\$32,164,830

LIABILITIES

Capital stock .....	\$18,010,000.00
Common stock .....	\$15,010,000.00
Preferred stock .....	3,000,000.00
Funded debt .....	10,888,000.00
Minneapolis Street Ry. Co.....	5,000,000.00
St. Paul City Ry. Co.....	5,000,000.00
Minneapolis & St. Paul Suburban Ry. Co.....	500,000.00
Consolidated 5 per cent mtg. bond.....	1,000,000.00
Current liabilities .....	566,545.49
Unpaid vouchers and accounts.....	33,078.88
Trainmen's deposits .....	23,350.00
Taxes accrued and not due.....	2,887.50
Interest accrued and not due.....	207,029.11
Dividend, common stock, payable Feb. 15, 1902 .....	300,200.00
Income account, surplus.....	2,700,284.86
<hr/>	
Total .....	\$32,164,830.35

Annual Report of the South Side Elevated Railroad, Chicago

The annual meeting of the stockholders of the South Side Elevated Railroad Company, of Chicago, took place Jan. 30, 1902. The total earnings were \$1,362,231, against \$1,286,638 last year. There were carried 26,320,189 passengers, which is to be compared with 24,990,878 in 1900. The average daily traffic was 72,110; in 1900 this stood 64,468. The net earnings were \$517,271, a slight decrease, which President Carter explained in his remarks to the shareholders. The figures follow:

EARNINGS

Passengers .....	\$1,316,009
Other earnings .....	45,646
Miscellaneous .....	576
<hr/>	
Total .....	\$1,362,231

EXPENSES

Maintenance of way and structure.....	\$74,498
Maintenance of equipment.....	105,279
Conducting transportation .....	361,619
General expenses .....	141,291
Loop rental and expenses .....	162,360
<hr/>	
Total .....	\$844,960
Total operating earnings .....	\$1,362,231
Less operating expenses .....	844,960
<hr/>	

Net earnings .....	\$517,271
Deduct interest on bonds.....	\$33,750.00
Deduct dividends on capital stock.....	357,955.25
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Surplus for year 1901.....	\$125,566

General balance sheet:

ASSETS

Cost of property .....	\$11,787,044
Capital stock in treasury.....	92,390
Material and supplies on hand .....	23,613
Due from companies and individuals .....	4,741
Due from agents .....	4,441
Current assets .....	6,650
Cash on hand .....	62,720
<hr/>	
Total .....	\$11,981,599

LIABILITIES

Capital stock .....	\$10,323,800
Funded debt .....	750,000
Current liabilities (including taxes payable in April; December pay roll and supplies) .....	134,846

Depreciation .....	50,000
Reserve .....	722,953
<hr/>	
Total .....	\$11,981,599

President Carter in presenting the report, said in part:

"There is a decided growth in the desire of the population of the southern wards of the city for extension of your company's lines. The first and essential step toward this development is a third track on the north half of the road, without which the cars employed on new lines could not be handled to the satisfaction of patrons. Progress has been made toward obtaining the authority to construct this track. Your directors heartily approve such developments of the lines and desire to enter during the coming year on an extension of the facilities for rapid transit to a larger area.

"The net earnings are somewhat less than last year, from three principal causes. It happened that we were able during the year to settle all of the accumulated personal injury cases of past years that seemed particularly serious, clearing the company of that class of liabilities. The cases still pending are not of a character to involve liability which we consider just or likely to cause much expense. While we made the settlements mentioned, we did not relax our disposition to fight claims we deemed unjust, and were successful in winning three cases which we contested. The storage batteries involved another considerable outlay charged to operating expenses. When they were purchased in 1898 we took an option for ten years' maintenance from the battery company, on the basis of an annual payment of 6 per cent of the first cost of the batteries. This option we were not obliged to exercise for two years after installation, but if exercised the contract required this company to make payment for the two years when notice of election to exercise the option was given. After careful consideration we decided that it was to your best interest that the option should be exercised, which was accordingly done. The batteries are satisfactory for purposes of regulation and are valuable in the operation of the road. Other companies have come to the same conclusion, several having recently installed them.

"The third and largest depletion of the net earnings proceeded from a very great increase in taxes. During the period of depression, in which elevated railroads were notable sufferers, the taxes had been reduced to correspond with the market value of the property. While the taxes were never as low as was claimed during the public agitation of the question, the elevated companies shared in the result of the effort to put a greater share of the public burdens on the public utilities. The result, so far as we are concerned, is that the taxes are increased to \$73,626.13 per annum, in addition to the sums paid for use of streets and alleys, car licenses, free transportation to police and firemen and United States mail carriers, and should now satisfy the greediest of the agitators.

The stockholders voted to reduce the number of directors from eleven to nine. A. A. Carpenter and George D. Bolton not caring to serve longer, the former was not re-elected and the latter resigned. The change was made to make it more easy to secure a quorum. T. J. Lefens was elected a director to succeed himself, and C. H. Wacker was elected to succeed A. O. Slaughter.

New Jersey Tax Decision in Favor of Companies

The Court of Errors and Appeals has reversed the judgment of the Supreme Court, which sustained the City of Newark in taxing as real estate the franchise of the North Jersey Street Railway Company, of Newark, N. J. The Chief Justice, in announcing the decision, said that the Court concurred in the main with the dissenting opinion filed by Justice Garrison in the Supreme Court, and in a supplemental opinion he said: "That there is an inherent value in the property of the North Jersey Street Railway Company over and above the cost of producing its rails, stringers, poles, wires, power houses, etc., needs no demonstration. The value, however, springs out of its ownership of the franchise to maintain and operate its road. This franchise is taxable, but, under present legislation, the right to tax it has been reserved by the State to itself, and not delegated to the several municipalities through which the company's road passes."

The history of the case dates from the assessment of the company's property by the City of Newark, which assessment was placed at \$3,100,000. This assessment the State Board of Taxation subsequently reduced to \$2,264,000. The City of Newark then appealed to the Supreme Court and that body rendered judgment in favor of Newark, upholding the city's contention that rights of way in public thoroughfares were easements and were therefore taxable as such, constituting real property. From this decision, the company, as a final resort, carried the case to the Court of Errors and Appeals.

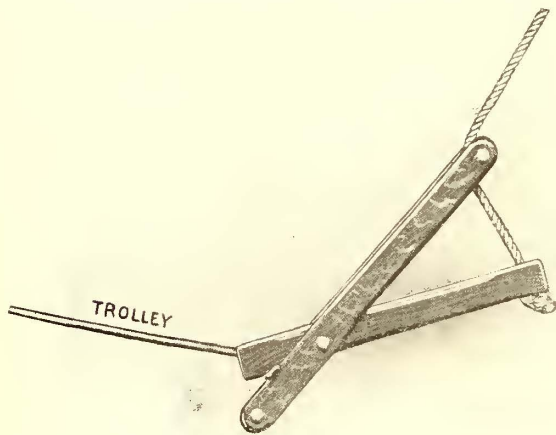
## Ohio Tax Increases Set Aside

Mayor Johnson, of Cleveland, it would seem, has received a hard blow at the hands of the Ohio State Board of Tax Remission, for that body, which consists of the Governor, Auditor of State and the Attorney General, on Feb. 1 remitted the tax placed against the Cleveland franchise corporations by the Cleveland Board of Equalization on property aggregating \$17,250,000. They do this because the Board of Equalization, in adding this amount to the corporations, has applied the principles of the Nichol law, which specifically applies to all telephone, telegraph and express companies. The corporations that get this reduction are the Cleveland Electric Railway Company, Cleveland City Railway Company, the Cleveland Gas Light & Coke Company, the Peoples Gas Light Company and the Cleveland Electric Illuminating Company.

## A New "Pick-Up" for Trolley Wires

It is becoming recognized more and more by street railway managers that it is the best policy in the operation of their roads to have on board their cars, especially those running into the suburban districts, various pieces of apparatus which will enable the motorman and conductor to either repair the damage or make such temporary arrangements as will prevent a tie-up on that section until the arrival of the emergency wagon. The latest device of this kind to be placed on the market is illustrated in the accompanying engraving and has been in use for some time past on the line of the Decatur Traction & Electric Company, Decatur, Ill., of which line Andrew Ambule, the inventor, is general manager. The device is intended for rapidly and safely getting the free end of a broken trolley wire out of the way so that the current can be put back on the section where the break has occurred without fear of again opening the circuit breaker or rendering the company liable for damages to animals, persons or property from the dangerous live wire.

The device is extremely simple, consisting simply of three pieces of wood fastened together in the way shown so as to make a pair of wooden tongs that have an enormous gripping power on the short ends. One of the long arms is connected to the end of a piece of  $\frac{3}{8}$ -in. rope which passes around a pin in the end of the other arm. A pull on this rope therefore will cause the tongs to close over any article placed between them with great



PICK-UP FOR TROLLEY WIRE

force, and grooves are cut crosswise in the jaws to receive the trolley wire and hold it firmly in place. That device when not in use can be easily stowed away under the seat of the car, the rope being wrapped around it. About 45 ft. of rope is supplied with each pick-up, which is amply sufficient for all ordinary service, it being long enough to reach any convenient limb of a tree or cross-arm which can be utilized for holding the trolley wire up in the air in a position approximating that normally occupied.

The device has been taken up by the Garton-Daniels Company, of Keokuk, Iowa, and is being manufactured by this company in large quantities. It will be known in the future as the G-D Trolley Pick-Up. One of the greatest advantages is the fact that it is not necessary to place the wire parallel with the handles, but the gripping is done by holding the pick-up at right angles to the wire and so all danger of the operator receiving a shock is prevented. The simplicity of its construction adds greatly to its strength and lightness as well as keeping it always in perfect working order.

## Street Railway Patents

UNITED STATES PATENTS ISSUED JAN. 21, 1902

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

691,351. Convertible Car; J. A. Brill, Philadelphia, Pa. App. filed Feb. 1, 1901. Removable panels are mounted to slide in posts which connect the roof with the lower fixed panels. The movable panels are housed in chambers in the roof.

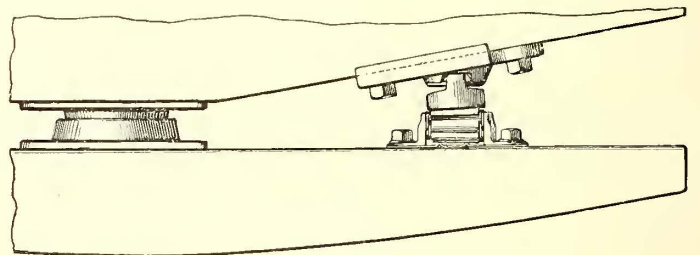
691,381. Subterranean Current Transmission for Electric Tramways or Railways; A. Hrebicek, Bingerbruck, Germany. App. filed Sept. 12, 1899. Sectional cover plates normally closing the conduit are moved aside and returned by the engagement of a projection from the car and inclined grooves in the plate.

691,473. Electric Traction System; C. M. J. Limb, Lyons, France. App. filed Jan. 25, 1901. The accumulators which furnish the propelling current normally are automatically recharged at every station, the starting after a stoppage at the station being effected by making use of the main charging current instead of the battery.

691,495. Insulating Conduit for Conductors of Electric Tramways; P. C. Seguy, Paris, France. App. filed March 5, 1901. The conduit is built up of solid blocks of insulating material containing a channel for the conductor openings in the bottom of the channel, allowing water to pass through into another channel below.

691,616. Railway Track Structure; E. B. Entwisle, Johnstown, Pa. App. filed June 26, 1901. A central solid hardened body to which the rails are removably secured and which replaces a cutaway portion of the main track rails.

691,618. Locking Device for Motor Reversing Switches; F. W. Garrett and E. W. Stull, Johnstown, Pa. App. filed June 28, 1901. The invention consists in the provision of co-operative locking members carried, respectively, by the regulating and reverse switches, the member carried by the reverse switch having a fixed relation thereto and a corresponding number of locking positions, and the member carried by the regulating switch having a movement independently thereof and so arranged and operated that it engages the first-named member in such a manner as to lock the reversing switch at all times except when the regulating switch is at its off position.



PATENT NO. 691,699

691,625. Means for Propelling Cars, etc.; E. Hayward, Chicago, Ill. App. filed Feb. 28, 1901. An air compressor driven by an axle supplies a tank which in turn feeds a motor. Compression on the draw-heads actuates the compressor and a pull on the draw-heads actuates the motor. Thus the energy exerted to stop a train can be stored and utilized to start the train.

691,692. Controlling System; T. Von Zweigbergk, Preston, England. App. filed July 8, 1901. Mechanism for operating a controller by means of compressed air governed electrically by one or more master controllers, the result being that the main controller located where most convenient, on a train for example, may be operated with very little manual power from the most desirable point.

691,699. Side Bearing for Railway Cars; F. K. Fassett, St. Louis, Mo. App. filed July 8, 1901. A loosely suspended top-bearing which is practically immovable in its seat rests upon the lower fixed bearing on the truck bolster.

691,720. Railway Switch; G. E. Haynes, Chelsea, Mass. App. filed Jan. 5, 1901. Structural details of a mechanically operated switch under the control of the motorman.

UNITED STATES PATENTS ISSUED JAN. 28, 1902

691,781. Mechanism for Automatically Operating Railway Switches; C. J. Kintner, New York, N. Y. App. filed Dec. 24, 1900. A pin carried by the car is thrust downward to engage with a cam groove in a cylinder to cause the latter to rotate and move the switch point.

691,829. Car Fender; W. F. Weiss, Camden, N. J. App. filed Sept. 27, 1900. Details of construction of a fender in which the scoop normally rides above the roadway and the obstacle forces it downward on striking.

691,848. Brake; J. D. Edwards, St. Louis, Mo. App. filed Nov.

20, 1901. The brake staff is threaded and its rotation causes a nut to traverse it, the movement of which is communicated to the brake rigging.

691,862. Pneumatic Car Spring; P. Herpolsheimer, Seward, Neb. App. filed March 28, 1901. The truck is provided with springs interposed between the bolster plates and consisting of air chambers.

691,895. Folding Car Step; A. D. Coon, Ballston Spa, N. Y. App. filed Nov. 1, 1901. The lower step folds backward and upward against the second step.

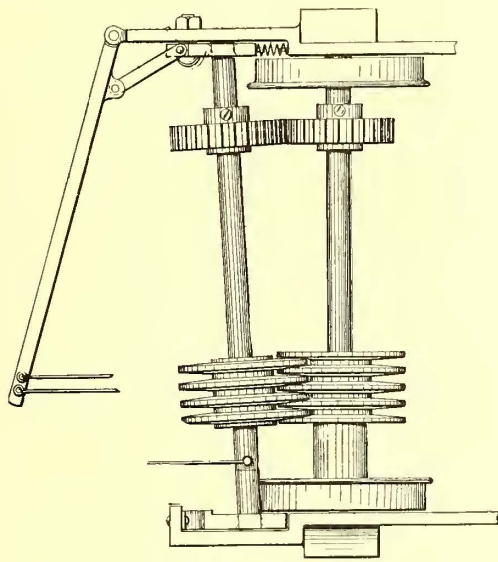
691,993. Track Sanding Device; J. H. Watters, Anniston, Ala. App. filed Aug. 14, 1901. An air nozzle is adjustable in the sand box to force the sand therefrom.

691,995. Fare Register; V. Weber, Princeville, Ill. App. filed Aug. 10, 1899. Relates to the construction of the dial train and the levers for moving the same to accomplish the usual functions of a fare register in a simple and compact mechanism.

692,046. Brake for Street Cars; R. Bischoff, New York, N. Y. App. filed Nov. 29, 1901. An auxiliary brake mechanism is applied to the small wheels of a truck and when desired can be thrown into action simultaneously with the action of the main brake on the larger wheel.

692,050. Automatic Switch Controller; W. A. Newman Dorland, Philadelphia, Pa. App. filed July 26, 1901. A mechanically operated switch controlled from the car.

692,133. Car Seat; H. S. Hale, Philadelphia, Pa. App. filed March 25, 1898. The invention comprehends a reversible car seat having its metal work formed wholly or largely of stamped sheet metal.



PATENT NO. 692,046

692,141. Seat; F. H. Janson, Brooklyn, N. Y. App. filed Sept. 12, 1901. A lever fulcrumed on the base, the fulcrum comprising a slidable and pivotal connection, and the lever being formed with a lug moving therewith to engage a part of the base in order to hold the lever immovable, this lever carrying the back and also engaging with a second lever to reverse the seat.

692,187. Fender; R. Smith and H. W. Leonhard, St. Louis, Mo. App. filed Sept. 21, 1901. The fender is normally retracted, but when tripped shoots forward.

692,193. Wheel; O. Congelton, Port Chester, N. Y. App. filed April 10, 1901. A car wheel having a flat tread with a groove or channel therein and balls retained in the groove and forming the flange of the wheel.

## ENGINEERING SOCIETIES

NEW YORK RAILROAD CLUB.—The next meeting of the club will be held at 349 Madison Avenue, on Thursday evening, Feb. 20. The subject of the evening will be the best methods in shop practice in meeting the requirements for the maintenance of all-steel cars and the probable future shop changes necessary. Several short papers will be presented.

## PERSONAL MENTION

R. SAMUEL ELMER, president of the Mountain Lake Railroad Company, of Gloversville, N. Y., is dead.

MR. WILLIAM HARDIMAN has been appointed superintendent of the new Plymouth & Larksville Electric Railway, which will soon be completed from Plymouth to Edwardsville, Pa.

MR. LAMAR LYNDON has returned from a five weeks' trip to the West Indies, and is busily engaged in preparing a report on a valuable electric railway proposition he has had under investigation in San Domingo.

MR. J. J. SHEA, division superintendent of the Metropolitan Street Railway Company, New York City, was knocked down by a runaway horse on Saturday last, and quite severely injured. Mr. Shea is now in Bellevue Hospital, and is reported as on the road to recovery.

MR. J. A. FILLMORE, who until last June was general manager of the Southern Pacific Railroad Company, has been appointed general manager of the North Pacific Coast Railway, with headquarters in San Francisco. The company in the future will be known as the North Shore Railroad Company.

MR. BANNISTER HALL, aged sixty-five, secretary and treasurer of the Consolidated Railway, Gas & Electric Company, of Charleston, S. C., secretary and treasurer of the National Indemnity & Insurance Company of Baltimore, and widely known in financial and insurance circles, died at his home in Baltimore on Feb. 4.

MR. C. A. BUCH has resigned as general manager of the Altoona & Logan Valley Electric Railway Company, of Altoona, Pa., to become connected with a Philadelphia coal company. Mr. Buch has been connected with the company since 1892. He will be succeeded by Mr. S. S. Crane, the present superintendent of the company.

MR. F. G. FRESE, of the Cleveland Construction Company, died at Richmond, Va., of pneumonia a few days ago. Mr. Frese was in charge of the construction work on the line of the Richmond & Petersburg Electric Railway. He lived in Akron, and organized and was for some time general manager of the Akron Peoples Telephone Company.

MR. M. F. BURKE, formerly general superintendent of the Terre Haute Electric Company, of Terre Haute, Ind., has assumed the management of the electric railways of El Paso, Tex., and Jaurez, Mex. The old lines have been greatly extended and the system changed from horse to electric traction, the engineering work being in charge of Stone & Webster, of Boston, Mass. The electric roads were opened Saturday, Jan. 11.

MR. THOMAS ROBERTS, chief mechanical engineer of the South Australian Government Railways, who was recently appointed to visit Europe and America for the study of the various methods of street railway operation in both of these continents, has recently filed his report. Mr. Roberts strongly favors the overhead system, and has recommended that system for adoption in Adelaide, Australia. According to Mr. Roberts, Hamburg has the most extensive and finest systems in Europe, but it would seem that he has not put himself on record as to which he considered the finest American example.

MR. WILLIAM C. WHITNEY, in a recent interview in the *New York Sun*, said that as he is now about sixty years of age, he is seriously considering withdrawing from active participation in business. He stated, however, that he finds it much easier to talk about doing this than actually to carry out such an intention, but he has been a very busy man during the last twenty-five years or more, and thinks that he has earned the privilege of resting. He also stated in the same interview that the affairs of the Metropolitan Street Railway had taken very little of his time during recent years, as the entire management of that property has been practically with Mr. Vreeland for that period.

MR. BRET HARTER, a graduate of Purdue University, and prominently identified with the Syracuse Rapid Transit Company and the Lakeside & Baldwinville Railway Company from 1896 to 1899, has recently entered the employ of E. P. Roberts & Company, of Cleveland, Ohio. Mr. Harter, after resigning from the Syracuse companies, became superintendent of the Detroit, Rochester, Romeo & Lake Orion Railway, and electrical and mechanical engineer of the Detroit, Rochester, Romeo & Lake Orion Railway, the North Detroit Railway and the Grand Rapids, Holland & Lake Michigan Transit Railway Company, of Michigan. As consulting engineer, he was associated with the Canastota & Morrisville Railway Company, the Suburban & Delphi Railway, the Clyde Power & Railway Company and the Marcellus Electric Railway Company, of New York.

## FINANCIAL INTELLIGENCE

### THE MARKETS

#### The Money Market

WALL STREET, Feb. 5, 1902.

There are comparatively few developments of importance to be noted in the money market of the past fortnight. We have simply been witnessing the steady gain in bank reserves and the relaxation in money rates which normally occur at this season. The six weeks from the 1st of January to the middle of February and the months of June and July are proverbially the easiest times of the year for borrowers. Consequently they are the periods when promoters of corporate consolidations and syndicates managing the flotation of new securities are most apt to make their application for credit. Last year between Jan. 1 and March 9 loans of the New York banks increased in the stupendous sum of \$115,000,000. From then on to the last of May they declined \$60,000,000, but they rose again \$42,000,000 during June. It will not be surprising, therefore, if the loan expansion which we are now seeing in the local market is carried considerably further. Last Saturday's reported increase of \$19,500,000 was no doubt exceptional, but the syndicate operations requiring the use of bank capital are of sufficient magnitude to make it probable that further advances will be sought for. The great difference in the money situation, as compared with a year ago lies, of course, in the very slight demands at present to conduct the ordinary stock speculation. Last year both January and February were months of heavy speculative buying and consequently of heavy borrowing to carry speculative purchases. Obviously no repetition of last winter's enormous extension of the loan account need be anticipated now. Currency continues to flow back freely from the interior, the movement being less than last year, but still rather above the season's normal average. The Treasury's surplus meanwhile is being kept down by bond redemptions and other heavy Government disbursements. Against these two sources of gain must be reckoned further large gold exports to France. Three separate engagements aggregating \$3,750,000 were announced yesterday. The incident of greatest importance for the future, which has fallen within the past week, is the introduction of a bill in the House of Representatives, recommending the repeal of \$78,000,000 or practically the entire amount of the war revenue taxes. There is no doubt that this measure will be passed either in its present or in some moderately amended form. But the effects will not be felt until after the close of the fiscal year, when the new enactment will go into force.

Call money is loaning freely at  $2\frac{1}{2}$  per cent at the Stock Exchange. Time loans are being made as low as  $3\frac{3}{4}$  per cent on periods of three to six months, but 4 per cent is the regular rate.

#### The Stock Market

The interval since the last of these articles was written has been generally an uneventful one on the local Stock Exchange. Except for some sharp advances among the high-priced railroad shares where the floating supply is exceedingly limited, and some heavy buying in the copper stocks on indications of decided improvement in trade conditions, the movement has been exceptionally narrow and the dealings extremely dull. Whatever buying for actual investment there is, seems to be confined to the bond department, and business here has been rather unusually brisk. But in stocks, investors and speculators alike are restrained by various points of uncertainty in the situation, most of which are associated with the comparatively high level of prices. It is evident that the market is awaiting some impulse which cannot at this juncture be foreseen, before it goes up. On the reverse side it is equally plain that outside conditions of business and railroad earnings are too favorable to allow much of a decline. In support of the latter view it is also to be noted again that the open speculative account is small, which is another way of saying that stocks are held in strong hands. The postponement of the preliminary decision in the Northern Securities case has been a good deal disappointing because the Street had rather hoped that the Supreme Court would deny the application for a hearing made by the State of Minnesota. However, it still remains to be seen whether the uncertainty over the issue of this litigation can longer continue to exclude other influences in the movement of securities. The latest news from the wheat-growing regions is favorable. While the winter crop is not in the prime condition it was last year, it has escaped the dangers from want of moisture and snow-covering which threatened it three weeks ago. This is a reassuring development so far as the future is concerned, and so are the easing of money, the traffic rate agreements in the West, and the surprising increases maintained in railroad

earnings. But while sentiment is more hopeful on these accounts than it was a fortnight ago, there is still the doubt only to be settled by actual experience, whether the improved outlook will overcome the reserve of outside speculators enough to bring them back into the market as buyers.

Metropolitan has been the active one of the local traction issues in the recent dealings. A temporary check to the advance arose in the unexpected announcement Monday of Mr. Whitney's proposed retirement. But the decline which followed this publication was quickly recovered yesterday, on assurances that the Whitney holdings would not in any likelihood be pressed for sale on the market. The real motive for the recent buying of Metropolitan now appears in the announcement which is officially confirmed that a new company is to be formed to take over the present stock, presumably on a guarantee of dividends, and which ultimately may absorb the shares of the other local traction companies. Manhattan continues to be picked up quietly on every occasion of weakness, but attempts to advance the price are for some reason or other being discouraged. Brooklyn Rapid Transit stock has been the least active of the three local issues during the last two weeks. Its future would seem to be more dependent than the other two, upon the course of the general speculation.

#### Philadelphia

It is now virtually certain that arrangements have been completed for a new company to lease the present Union Traction and to take over the various rapid-transit franchises granted last summer and acquired by the Foerderer-Mack syndicate. No definite statement regarding terms has yet been made, but the gossip is that the new company will issue \$30,000,000 stock fully paid up and \$10,000,000 bonds, and that the whole will be underwritten by a prominent New York banking house. The market for the stock appeared to have so far discounted the development that the quotation has not risen above what it was two weeks ago. Further details about the deal are evidently awaited before any further movement may be anticipated. Other transactions in the street railway properties have been mostly of a trifling nature, Philadelphia Traction moving as usual in sympathy with Union Traction, is firm around  $98\frac{1}{4}$ . A few sales of American Railways were reported during the two weeks at 44 and  $44\frac{1}{2}$ , and of Railways General at  $4\frac{1}{4}$ . Sixty shares of Indianapolis Railway sold last Thursday at 60, an advance of 12 points over the last previous sale. Other minor dealings comprised Consolidated Traction of New Jersey at 68 and  $67\frac{1}{2}$ , Consolidated Traction of Pittsburgh at 23, Easton Electric at  $19\frac{3}{4}$ , Reading Traction at 32, and United Traction of Pittsburgh preferred at 52. Bonds have been quite active, Electric-Peoples Traction 4s the feature. This issue touched a new high record of 99 two weeks ago, but since then has reacted a point. A good business has also been done in Consolidated of New Jersey 4s at  $110\frac{1}{4}$  and in Citizen Passenger of Indianapolis 5s at  $109\frac{1}{4}$  and  $109\frac{1}{2}$ . Indianapolis Railway 4s have been steady at an advance to 85. Other sales comprise Lehigh Valley Traction 4s at  $89\frac{7}{8}$ , Newark Passenger 5s at  $116\frac{3}{4}$  up to  $117\frac{1}{2}$ , Syracuse Rapid Transit 5s at  $104\frac{3}{4}$ , Easton Electric 5s at 105, Peoples Passenger 4s at 106 and United Traction of Pittsburgh 5s at  $115\frac{3}{4}$  and 116.

#### Chicago

The securities of the Chicago surface lines have recovered somewhat from recent depression caused by the franchise tax decision. Union Traction is up from  $10\frac{1}{2}$  to 12, City Railway from 190 to 194 and West Chicago from  $90\frac{1}{2}$  to 92. Possibly this upward movement is merely a recoil from an excessive decline. At all events officials of the Union Traction take a rather gloomy view of the situation. They say that in spite of the fact that January was a good month the increased earnings were no more than sufficient to meet the tax requirements. It is said that the service cannot be improved if earnings are thus extorted. Elevated line stocks have undergone no material change. Metropolitan common sold down from 39 to  $37\frac{1}{2}$ , then back again to 40 and finally ended at  $39\frac{3}{4}$ . The preferred was steady on unimportant transactions around  $90\frac{1}{2}$ . Northwestern common, on sales of a few hundred shares, was steady at 38 and the preferred at  $89\frac{1}{2}$ . The annual meeting of the company was again postponed owing to the inability of some of the New York interests to attend at the time set. No action is expected in regard to dividend payments because a good deal of money is needed for the immediate development of the property. The president of the road is decidedly opposed to commencing dividends at this time, although he acknowledges that 5 per cent has been earned on the preferred stock. Metropolitan directors will meet early this month to act on

the semi-annual preferred share dividend. Opinion is in favor of the usual 2 per cent, but in view of the recent accident and the franchise tax, it is possible that only 1½ per cent will be declared. The only other transactions of note were the sale of 200 South Side Elevated at 107 and several trades in Lake Street at 105½ and 103¼.

**Other Traction Securities**

Some of the leading traction stocks in Boston have fallen off sharply during the last fortnight. Boston Elevated, which sold as high as 170 on Jan. 24, has dropped steadily to 103, the lowest quotation recorded in a long time past. Massachusetts Electric common has also been weak; it dropped from 34¼ to 33 and recovered subsequently only a fraction of the loss. On the other hand the preferred stock is up more than a point to 93½ and the West End shares have been strong, the common up ¾ to 95 and the preferred up ½ to 115. No news has developed in connection with any of the properties. The extreme low figures on Boston Elevated were reached on fractional sales and did not represent the true level of the market. The recovery in United Railways of Baltimore issues has made further progress. Two weeks ago the common stock sold at 145⅞ and the income bonds at 67⅞. They have since risen by slow stages to 15½ for the stock and 69¼ for the bonds. The upturn has been helped by intimations that the management will soon announce a plan for largely increasing its net revenue. City and Suburban of Washington 5s after a decline to 91½ rallied sharply on the announcement that the trustees of the road would buy the February coupon. Other traction sales in Baltimore include Norfolk railway 5s at 111 and 111½. City and Suburban of Baltimore 5s at 115½. Atlanta Railway 5s at 105½. Lexington Railways 5s at 102½. City Passenger 5s at 109⅜, Nashville Railway 5s at 63 and 62¾. Pittsburgh Traction 5s at 109⅜ and United Railway of Baltimore 4s at 95½ up to 96½. On the New York curb desultory transactions were reported in St. Louis Transit on a scale up from 30½ to 32½. The stock sold in St. Louis on Monday at 32⅞. United Railways of St. Louis, preferred, selling ex-dividend went up from 85 to 85½ on small purchases, and the bonds were bought at 89½. North Jersey Street Railway is quoted at 24 bid by New York specialists. The Syracuse Transit issues have dropped off sharply to 52 bid for the preferred against 60 a short while ago and to 21 bid for the common. Columbus Street Railway is lower at 45 bid, and the preferred at 101. New Orleans securities have been inactive. City Railroad common is quoted at 30 bid and the preferred at 105. Nearly nine-tenths of the sales on the Cleveland Stock Exchange during the past ten days have been in Everett-Moore securities. Closing figures last Saturday compared with a week before show that six issues fluctuated in value, all improving. Cleveland Electric advanced from 70¼ to 74½. Cuyahoga Telephone from 9 to 9½, Detroit United from 56½ to 67¾, certificates from 57 to 66½, and Federal Telephone from 6 to 6¾. Over 2400 shares of Detroit United, 300 of certificates, and 442 Cleveland Electric changed hands during the week. On Monday 550 shares Detroit United sold at 68½ while two small blocks of Cleveland Electric sold at 76¾. The steadily increasing confidence in the value of Everett-Moore securities is having a good effect upon all stocks and business in general. While it is claimed by the bankers' committee in charge of Everett-Moore affairs that no tentative offers have been made for controlling interest in Detroit United, it is known that two syndicates, one headed by Detroit people and another by Cincinnati people, are in the field to purchase this property.

**Iron and Steel**

The recent developments in the iron industry are most important where they emphasize the growing scarcity for steel. Imports of billets from Canada and Germany continue, and it is now said that the United States Steel Corporation, which has always made a considerable surplus over and above what its own plants use, will have to resort to foreign importations to meet its requirements. All this of course is gratifying proof that the steel trade is very far from a state of over-production. Prices are being held well in check, however, not only in steel billets but in pig iron and in the higher grades of manufactured material. Bessemer pig is quoted at \$16.75, billets at \$27.50 to \$28 and steel rails at \$28.

**Metals.**

Copper after touching 10¾ cents a pound for Lake, has rallied sharply to 13¾ cents, tin is weaker at 23¾ cents, lead is stronger at 41 cents and spelter is casier at 4¼ cents.

**Security Quotations**

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

	1902	
	Closing Bid Jan. 21	Feb. 4
American Railways Company.....	44	44
Boston Elevated .....	166	163
Brooklyn R. T.....	65½	65¾
Chicago City .....	190	193
Chicago Union Tr. (common).....	10½	12
Chicago Union Tr. (preferred) .....	47¾	47
Cleveland City .....	a112	..
Cleveland & Eastern .....	a30	31
Cleveland Electric .....	70½	74½
Columbus (common) .....	39	45
Columbus (preferred) .....	90	101
Consolidated Traction of N. J.....	67	67½
Consolidated Traction of N. J. 5s.....	109	110¼
Consolidated Traction of Pittsburgh (common).....	23	23
Consolidated Traction of Pittsburgh (preferred).....	64¼	..
Detroit United .....	57¾	67¾
Detroit United Certificates.....	57	66½
Electric-People's Traction (Philadelphia) 4s.....	98¾	98¼
Elgin, Aurora & Southern.....	a37	37
Indianapolis Street Railway 4s.....	46	46
Indianapolis Street Railway 4s.....	87½	85
Lake Street Elevated .....	10½	10½
Manhattan Ry. ....	135½	135½
Massachusetts Elec. Cos. (common) .....	34	34
Massachusetts Elec. Cos. (preferred).....	91½	94
Metropolitan Elevated, Chicago (common).....	39½	39
Metropolitan Elevated, Chicago.....	90¼	91
Metropolitan Street .....	167½	172½
New Orleans (common) .....	30¼	30
New Orleans (preferred).....	105	105
North American .....	88	93½
Northern Ohio Traction (common) .....	a30	25
Northern Ohio Traction (preferred) .....	..	88¼
North Jersey .....	22	24
Northwestern Elevated, Chicago (common) .....	38	38
Northwestern Elevated, Chicago (preferred).....	86	86½
Philadelphia Traction .....	97½	98
Rochester (common) .....	42	42
St. Louis Transit Co. (common) .....	32	32
South Side Elevated (Chicago).....	105	106½
Southern Ohio Traction.....	..	78½
Syracuse (common) .....	21	21
Syracuse (preferred).....	61	52
Third Ave. ....	123	124
Twin City, Minneapolis (common) .....	108½	111
United Railways, St. Louis (preferred) .....	85	84¾
United Railways, St. Louis, 4s.....	89	89½
Union Traction (Philadelphia) .....	35¾	35½

\* Ex-dividend. (a) Asked. † Last sale.

SAN FRANCISCO, CAL.—A meeting of the stockholders of the North Shore Railroad Company has been called for April 5 to authorize an issue of bonds to the amount of \$6,000,000. These bonds are to run for forty years, having a par value of \$1,000 each, and bearing interest at the rate of 5 per cent per annum. As previously stated, the North Shore Railroad Company will succeed the North Pacific Coast Railroad, which extends from Sansalito to Cazadero, with ferry connections with San Francisco, and for the electrical equipment of which plans have recently been made.

MICHIGAN CITY, IND.—A mortgage in favor of the Royal Trust Company and H. E. Ambler, of Chicago, for a sum not to exceed \$3,000,000 has been filed at Elkhart by the Chicago & South Bend Railway Company, a corporation organized to acquire, construct and operate street railways in Laporte and Michigan City.

CONCORD, MASS.—The Concord & Boston Street Railway Company has petitioned the Railroad Commissioners for authority to issue bonds to the amount of \$50,000 at 4½ per cent.

WAREHAM, MASS.—The Middleboro, Wareham & Buzzards Bay Street Railway Company has petitioned the Railroad Commissioners for authority to issue bonds to the amount of \$75,000 at 5 per cent.

NEW BEDFORD, MASS.—The New Bedford & Onset Street Railway Company has petitioned the Railroad Commissioners for authority to issue bonds to the amount of \$80,000.

ATLANTIC CITY, N. J.—Ex-United States Senator James Smith, Jr., of New Jersey, has been appointed receiver of the Atlantic Coast Electric Railway pending the disposition of proceedings to foreclose a \$1,000,000 mortgage on the company's plant, held by the Knickerbocker Trust Company as security for an issue of bonds of the same amount.

TABLE OF OPERATING STATISTICS

Notice.—These statistics will be carefully revised from month to month, upon information received from the companies direct, or from official sources. The table should be used in connection with our Financial Supplement "American Street Railway Investments," which contains the annual operating reports to the ends of the various financial years. Similar statistics in regard to roads not reporting are solicited by the editors. \* Including taxes. † Deficit.

Table with columns: COMPANY, Period, Total Gross Earnings, Operating Expenses, Net Earnings, Deductions From Income, Net Income, Amount Available for Dividends. Rows include companies like AKRON, O., ALBANY, N. Y., AUGUSTA, GA., BINGHAMTON, N. Y., BOSTON, MASS., BROOKLYN, N. Y., BUFFALO, N. Y., CHICAGO, ILL., CLEVELAND, O., DENVER, COL., DETROIT, MICH., DULUTH, MINN., ELGIN, ILL., HAMILTON, O., LONDON, ONT., MILWAUKEE, WIS., MINNEAPOLIS, MINN., MONTREAL, CAN., NEW YORK CITY, PITTSBURG, PA., PHILADELPHIA, PA., RICHMOND, VA., ROCHESTER, N. Y., SCRANTON, PA., SYRACUSE, N. Y., TOLEDO, O., and W. NEW BRIGHTON, S. I.



## NEWS OF THE WEEK

## CONSTRUCTION NOTES

**GADSDEN, ALA.**—A new car house and repair shop is being built for the Alabama City, Gadsden & Attalla Electric Railway. The building is to be 25 ft. x 125 ft., and will accommodate twelve cars.

**ENSLEY, ALA.**—The Warrior River Power Company has been incorporated to build a plant on the Warrior River, 28 miles from Birmingham, to generate power for the operation of the Steel Cities Railway, to be constructed from Birmingham to Ensley, and from Ensley to Bessemer, and from Ensley to Brookside. The capital stock of the company is placed at \$500,000. R. R. Zell and others are the incorporators.

**SHEFFIELD, ALA.**—N. F. Thompson has asked a franchise to construct an electric railway here.

**SESPE, CAL.**—There are good prospects for the construction, by capitalists interested in the oil lands, of an electric railway in Ventura County, from Sespe to the Devil's Gate, via the Sespe Canyon. A franchise has been applied for to permit the construction of this line, which would be 4 miles in length.

**SAN FRANCISCO, CAL.**—The Market Street Railway Company is building another line to the beach and Cliff House. The road will be an extension of the present line running on Fulton Street from the terminus of the Geary, Sacramento and McAllister Street lines to Twenty-Fourth Avenue and the Casino.

**LOS ANGELES, CAL.**—It is reported that the Los Angeles & Pacific Railway Company will construct an electric railway along the ocean shore from Santa Monica to Redondo.

**OAKLAND, CAL.**—The Realty Syndicate, which controls the Oakland Transit Company, has begun work on a pavilion costing \$15,000 at Ayala Park, Oakland. Other important improvements are to be made at the park.

**SAN FRANCISCO, CAL.**—The Market Street Railway Company, it is said, is negotiating for the purchase of the properties of the California Standard Oil Company and the Giant Oil Company. It is even said that the Mercantile Trust Company is now holding a majority of the stock of both companies, pending the closing of the deal. The fact that the Market Street Railway Company uses oil for fuel lends credence to the report.

**COLORADO SPRINGS, COL.**—Work on the new power station of the Colorado Springs Rapid Transit Railway Company is progressing rapidly, and it is hoped to have the first of the units in operation by March 1. The installation will consist of seven units, aggregating about 5000 hp, all of the electrical apparatus being supplied by the General Electric Company and the engines by the Allis-Chalmers Company. Work on the pleasure park owned by the street railway is expected to be completed by May 1.

**DENVER, COL.**—Owing to the cold weather, work is temporarily suspended on the Denver & Northwestern Railway, which is to connect Boulder and Denver. A large deposit of coal has been found on the property owned by this company, and as soon as it is possible work will be resumed and pushed to completion on the construction of the line.

**OURAY, COL.**—The newly incorporated San Juan Electric & Railway Company, which is to connect Ouray with the coal fields 8 miles away by an electric railway, has now been granted all necessary rights of way, franchises, etc., and George A. Taff, formerly engineer for the Colorado Springs Electric Company, who is general manager of the company, is now securing bids preliminary to placing of contracts for the machinery.

**CARLINVILLE, ILL.**—The City Council, Jan. 22, passed the franchise granting the Springfield & St. Louis Electric Railway Company the right to build through the city. The franchise is for twenty years, and the road must be completed in three years. H. S. Reardon, the manager, says the company has secured right of way through the towns of Chatham, Auburn, Thayer, Virden, Girard and Milwood. A power house is to be constructed in this city.

**WABASH, IND.**—The remaining 6 miles of the old Erie Canal towpath has been sold to the Ft. Wayne & Southwestern Electric Railroad Company. This completes the chain of divisions to Logansport, and will greatly expedite the completion of the road.

**INDIANAPOLIS, IND.**—The Marion County Construction Company, of Indianapolis, has been incorporated to construct, repair and maintain electric railways, bridges, sewers, etc. The incorporators of the company are: G. W. Seibert, W. E. Smith and C. W. Wells.

**GOSHEN, IND.**—The Fort Wayne & Goshen Railway Company, capitalized at \$120,000, has been incorporated. The plan of the company is to build an electric railway between Fort Wayne and Goshen, and the construction of the division between Goshen and Lake Wawassee. It is said that the company will make an effort to have subsidies of \$2,000 a mile granted. James F. Rothwell, Richard Rothwell, James Lynch, George A. Sanner, William L. Holsch and Henry Cornet are among those interested in the company.

**NEW CASTLE, IND.**—The right of way recently secured by E. T. Ice for the New Castle-Muncie Electric Railway is to be transferred to J. P. McGrath, a Hartford City promoter. When Mr. McGrath shall have secured \$25,000 in stock subscriptions, four townships in Henry County agree to hold elections to decide upon each voting a \$15,000 subsidy to the company.

**LA FAYETTE, IND.**—Surveying for the interurban electric railway between this city and Terre Haute is expected to be completed in thirty days. The promoters are planning to carry passengers during the daytime, and at

night to haul coal from the fields of Brazil and Parke Counties. The Tippecanoe Power Company is to supply power, work on the construction of whose plant is to commence March 1. The Standard Construction Company, of La Fayette, will build both the road and the power plant.

**CLINTON, IA.**—The Dubuque & Western Railway Company, capitalized at \$25,000, has been organized for the purpose of constructing a railway (motive power not stated in the articles of incorporation) from the city of Dubuque, Dubuque County, to Boone, Boone County. H. W. Scaman, the well-known railway promoter and railway attorney, of this city, is president of the new company.

**TOLEDO, IA.**—It is probable that the construction of the Toledo Electric Railway Company's proposed electric railway lines from Toledo to Waterloo and from Toledo to Grinnel will be begun early in the spring. About 68 miles of line will be built. The company is capitalized at \$200,000, and the officers are: W. C. Walters, president; J. R. Caldwell, vice-president; C. E. Walters, secretary; H. A. Shanklin, treasurer; W. C. Walters, manager.

**DAVENPORT, IA.**—The plan of the Davenport & Western Electric Railway, incorporated Jan. 8, 1902, is to begin the construction of its line to connect Davenport, Cedar Rapids, etc., as early as possible. About 78 miles of line will be built. Details of equipment have not been decided. The officers of the company are: Robert Kercheval, president, general manager and purchasing agent; U. P. Hord, vice-president; W. E. Snider, secretary; Monroe Ebi, treasurer.

**LE MARS, IA.**—Recent developments in Plymouth County show that the promoters of the electric railway from Sioux City to Le Mars and from Le Mars via Hartley to Spirit Lake, are earnestly and actively at work, and it now seems practically assured that the line will be built. Representatives of Eastern capitalists have been negotiating with the Supervisors of Plymouth County for the purpose of securing the right of way from Le Mars to the Woodbury County line, over the public roads, and it is stated that the Supervisors look with favor upon the proposition. For the right of way the promoters agree to stand half the expense of the bridges that it will be necessary to construct for the operation of the line, and also further agree to keep the bridges in repair for all time. A fare of 1 cent per mile is to be charged for passenger traffic. Freight will be handled.

**COUNCIL BLUFFS, IA.**—The Omaha & Council Bluffs Railway & Bridge Company is making extensive improvements at Lake Manawa. In fact, the work has been progressing through the winter months, and everything will be in readiness for an early opening of the lake season. The company has recently purchased a 120-acre plat surrounding Wray's Landing, which will be formed into a perfect golf ground. The loop at the lake is also to be changed so that the cars can run south near the Manawa wagon road to the north side of the park, along which they will proceed to the northeast corner of the park, and then turn north on that portion of the old tracks. This will do away entirely with the lake front loop, and will effect a saving of five minutes in the time of service. At the Kursaal on Manhattan Beach an addition is to be constructed running inshore which will increase the dressing-room capacity of the bathing pavilion from 180 rooms to 300 rooms for the next season. A new boathouse will also be erected at the public dock near the pavilion for the storage of boats, and an ice house, with a capacity of over 2000 tons, has been constructed. A new well-shaped band stand will also be erected. The entire lake is to be dredged to deepen it for yachting purposes.

**PARIS, KY.**—A franchise has been granted T. J. Judy, Charles Menge, Edward Rice, Charlton Lowe and John Redmond, of North Middletown, and George Clay, of Clintonville, for an electric railway from North Middletown to the Fayette County line. This line will connect at the Fayette terminal with the proposed Lexington and Paris system, for which the surveys are now complete.

**LEXINGTON, KY.**—The Blue Grass Consolidated Traction Company is securing franchises from the counties surrounding Lexington for its proposed interurban system. Several counties have responded favorably. In fact, the franchise in Clarke County is the only one asked for not yet secured. The officers of the company are: George B. Davis, of Detroit, president; M. C. Alford, of Lexington, Ky., vice-president; Harold C. Beatty, of Detroit, secretary; Paul Sheldon, of New York, treasurer. The directorate is composed of the above-named officers, E. E. Davis and Blaine Gavett, of Detroit; C. V. Kasson, of Chicago; W. J. Loughbridge and Hal P. Headley, of Lexington, Ky.

**FREDERICK, MD.**—Plans are now being discussed for the construction of an electric railway from Frederick to Jefferson, a distance of about 8 miles. Among those interested in the plan are: L. O. Whipp, M. G. Rice, C. R. Ramsburg, Cephus Lakin, David Souder, Charles Zimmerman, A. Kemp. Several meetings have been held, and it is expected that a company will shortly be incorporated.

**BALTIMORE, MD.**—The Maryland Electric Railway Company, whose franchise ordinance was recently adversely reported by the first branch of the City Council, has filed with that body a new franchise application. The company agrees to pay \$60,000 for the franchise, payment to be made within fourteen days after the passage of the ordinance. The company also agrees to complete the road within the city limits twelve months after the franchise has been granted, and to begin work on the suburban lines as soon as the city lines are completed. The franchise is to become null and void on the sale of the property to other interests.

**BOSTON, MASS.**—The Boston & Worcester Street Railway Company has succeeded in securing a location in Wellesley, which will permit the company to begin work on the Boston end of the line. The line through Wellesley will be 5¼ miles long. The company has secured grants in all the towns along its route, except in Southboro, where its grant expired Jan. 1. Another application for a grant in that town will be made at once. The power station for the new road is now being built at Framingham. Satisfactory progress is generally reported.

**AGAWAM, MASS.**—Roscoe C. Taft, W. C. Dalzell, J. F. Whiting, G. W. Platt, H. F. Keith, John C. Benton, Frank B. Shutt, John Brewer, Orlando C. Bidwell and George W. McLen have applied for a charter for the New York & Berkshire Street Railway Company. The purpose of the company is to build an electric railway to extend through Montgomery, Egremont, Great Barrington, Monterey, Otis, Sandisfield, Tolland, Granville, Russell, Blandford, Southwick, Westfield and Agawam. The capital stock is limited to \$600,000, and the company is authorized to carry on a general freight and express business. A bill has been before the Legislature for several years for a steam railroad over the same route, and the desire now is to secure an electric road with freight-carrying privileges, in which event the effort to incorporate a steam road, under a bill now pending, will be abandoned.

**LANSING, MICH.**—The Michigan & Suburban Railway Company has begun running regular trains from Lansing to St. Johns on the line built by the Lansing, St. Johns & St. Louis Railway Company. The road was built as an electric line, but is being operated temporarily by steam.

**BAY CITY, MICH.**—The Bay City & Northeastern Railway Company is being organized by citizens of Bay City, for the purpose of building an electric railway from Bay City, through Tuscola and Huron Counties to Harbor Beach.

**GRAND RAPIDS, MICH.**—The first official trip over the Grand Rapids, Grand Haven & Muskegon Interurban Railway was made a few days ago from Grand Rapids to Muskegon, which points are the terminals of the main line, and the distance of 34 miles was covered in 61 minutes, actual running time. The trip was made by a party that included President F. W. Hawkes, Vice-President Thomas F. Carroll, Superintendent J. E. Webster and Auditor and Purchasing Agent Kirke Lathrop, of the company, and Wallace Franklin and F. W. Walker, of Westinghouse, Church, Kerr & Company. The road was formally opened to the public Feb. 1, and the rates charged, for the present, will be one and a half cents per mile. It is a third-rail line, constructed after the latest practice. A feature of the road is the rolling stock, which is especially heavy. The cars are handsomely furnished and upholstered in plush, and are provided with smoking rooms, observatory windows and other modern conveniences. Each car will seat fifty-four persons. They are equipped with Westinghouse air-brake apparatus, and each is provided with a telephone and apparatus for quickly connecting it with a telephone line on the right of way. The branch of the road running from Fruitport, southwest to Spring Lake and Grand Haven, has been operated on test trips, and is practically completed. The electricity for the trip made by the officials was furnished through the Walker sub-station, about one-third of the way between Grand Rapids and the power house in Fruitport; the other sub-station, at Coopersville, is not yet equipped with all of its machinery. The third-rail voltage is 600, and the high-tension potential is 23,000 volts.

**ST. LOUIS, MO.**—Following a thorough test of an automatic electric switch, which has been in operation at a certain point on the St. Louis Transit Company's lines for two months, the company has decided to install like devices at twelve other principal junctions. A further trial will be made, and, if successful, it will be adopted on all the company's lines. The primary advantage is the saving of time. The only contingency likely to interfere with the rapid and precise working of the switch is the deposit of earth washed by heavy rains into the spaces between the switch point and the rail. This difficulty will doubtless be overcome by the employment of a man, whose duty it will be to keep the switches free from dirt.

**TRENTON, N. J.**—The American Street Railways Bonding Company has recently been incorporated under the laws of New Jersey. The capital stock of the company is placed at \$500,000, of which \$200,000 is 7 per cent preferred stock. The charter specifies that the preferred stock can only be used in purchasing first mortgage bonds of street railways, but nothing is said about the use to which the common stock is to be put. The general purpose of the company is by no means made clear in the articles of incorporation.

**TRENTON, N. J.**—The contract for the construction and equipment of the Delaware Valley Traction Company's proposed road will be awarded in April. The plan of the company is to build lines from Pennington to Trenton, from Lambertville to Trenton, and from Hamilton Square to Trenton. In all about 31 miles of line will be built. It is expected that the construction of the road will be begun about April 15. The officers of the company are: George Buckman, president; W. F. Sadler, secretary and purchasing agent; F. J. Eppelle, engineer.

**BURLINGTON, N. J.**—The Burlington County Traction Company is seeking the aid of local financiers in placing the bonds with which to raise money for the building of its line from Moorestown to Mount Holly, and when that part is completed it is said that an extension will be made from Mount Holly to this city, a distance of 7 miles.

**NEWARK, N. J.**—A shorter route to Newark from Jersey City is proposed by the North Jersey Traction Company. The projected line would be an extension of the tracks of the Passaic & Orange Valley Company, and is designed to bring Paterson, Clifton, Athenia and Allwood into closer communication with Brookdale, Bloomfield, Montclair and, incidentally, Newark.

**TRENTON, N. J.**—The New Jersey & Pennsylvania Traction Company, which was recently incorporated to give this city three-cent street car fares, is meeting with success in securing the rights of way through the city. Announcement has been made that the company will pay every property owner for such part of the pavement as they occupy in front of his premises. This

will be exceedingly expensive, for two of the principal streets upon which the company desires to run are paved with vitrified brick. The company has also purchased property where it will be necessary to widen the streets. Franchises will be asked for within the next sixty days.

**LAS VEGAS, N. M.**—A site for the power house of the Las Vegas Electric Railway & Power Company has been purchased. The poles for the line are now being erected, and there is every reason to believe that 10 miles of road will be ready for operation by August, as has been assured by the promoters. The contract for cars has been placed with a St. Louis company. The plan is to eventually extend the road to El Porvenir, distant 16 miles. George W. Baumhoff, formerly connected with the St. Louis Transit Company, and G. Hutchins, of St. Louis, are promoting the new road.

**SEA CLIFF, N. Y.**—The Nassau County Railway Company has applied for a franchise to build a short electric railway here to extend from the main station of the Long Island Railroad. The latter company is understood to be interested in the new company, and the construction of an electric railway in Sea Cliff, which is a popular summer resort, is in keeping with that company's policy of building short feeder lines in Long Island towns.

**NEW YORK, N. Y.**—The Union Terminal Company, of New York, capitalized at \$100,000, was incorporated Jan. 28 to build a tunnel between 9 and 10 miles long between New York and Kings Counties. The road is to be operated by electricity. The project of a terminal company is a revival of a plan proposed in 1891. This contemplated furnishing a Manhattan terminal for all railroads entering Jersey City. Frederick P. Voorhees, Louis L. Stanton and William C. Cox, mentioned in the incorporation papers, are all connected with the Standard Trust Company, 25 Broad Street, New York.

**ALEXANDRIA BAY, N. Y.**—The contract of the construction of the St. Lawrence International Electric Railroad & Land Company's proposed electric railway, which is to connect Alexandria Bay and Redwood, Jefferson County, has been placed with M. P. McGrath and W. F. Pascoe, of Easton, Pa., and all the material to be used in constructing the line has been purchased. The road will be about 7½ miles long, and will carry passengers, freight, express and mail. Standard T-rail will be used in construction. The road is to be in operation by June 1.

**ALBANY, N. Y.**—It seems probable that the electric suburban lines of Albany will soon publish plans for a central electric railway station. Three lines, the Albany & Hudson, the Schenectady, and the Hudson Valley Railways are said to be looking about for a suitable location. Under the present condition the one building on the ground is insufficient, even for the needs of its owners, the Albany & Hudson Railway.

**ALBANY, N. Y.**—The Schenectady Railway projects a new line, which will extend along the Landonville road from the terminal of that company's Troy line, at Latham's Corners, to the point where the road will enter Albany. From there the tracks of the Union Traction Company on Clinton Avenue will be utilized to the postoffice. The franchise and rights of way have been secured outside of the city, and, although the requisite permits have not yet been granted outside of the city, no difficulty is anticipated.

**FISHKILL, N. Y.**—The Beacon Mountain Railroad has been incorporated to build an electric railway from the top of North Beacon Mountain to South Beacon Mountain, a distance of 5 miles. The capital of the company is \$150,000. Thomas E. Brown and Charles F. Mairs, of New York City, are among those interested in the company.

**GREENSBORO, N. C.**—The Greensboro Electric Company has been granted the right to double track a part of its road.

**GREENSBORO, N. C.**—M. D. Barr, of New York, one of the officers of the new Greensboro Electric Company, and the principal stockholder, visited Greensboro on Jan. 13. He was accompanied by F. R. Williamson, of Flemington, N. J., and J. Jerome Otis, of New York, officers of the North Carolina Construction Company, which will build the railway for the electric company. The object of their visit was to map out plans for the new line, the contract for which was to have been awarded within the next day or two.

**TOLEDO, OHIO.**—Stockholders of the Toledo & Western Railway met Jan. 25 and elected directors as follows: Luther Allen, C. M. Stone, W. L. Hayes, E. B. Allen, C. F. McMillen and J. R. Seagrave, of Cleveland; F. R. Seagrave and C. E. French, of Toledo. The following officers have been elected: Luther Allen, president and treasurer; F. R. Seagrave, secretary; C. B. French, auditor. The company has 60 miles of line in operation.

**CLEVELAND, OHIO.**—At the annual meeting of the Tuscarawas Traction Company, held a few days ago, the following directors were elected; F. T. Pomeroy, Will Christy, J. A. Rutherford, J. O. Wilson and Theodore Wentz. F. T. Pomeroy is president of the company; J. A. Rutherford, vice-president; William Aikins, secretary-treasurer.

**CLEVELAND, OHIO.**—One change was made in the organization of the Cleveland, Painesville & Eastern Railway at the annual meeting, held a few days ago. Charles A. Post, a well-known banker, succeeded W. W. Moore as treasurer of the company, his selection being made on the advice of the bankers' committee now in charge of the Everett-Moore affairs. The directors of the company are: I. N. Topliff, C. W. Wason, J. A. Beidler, C. A. Post, H. A. Everett, E. W. Moore and Fred Storm, and the officers are: C. W. Wason, president; J. A. Beidler, vice-president; C. A. Post, treasurer; Fred S. Borton, secretary.

**CLEVELAND, OHIO.**—The Cleveland & Southern Railway Company has elected directors as follows: A. H. Pomeroy, A. E. Aikins, W. H. Lamprecht, F. T. Pomeroy, T. H. Ginn, J. W. Roof, F. L. Fuller, L. J. Wolf, and Otto Miller. The officers of the company are: W. H. Lamprecht, president; A. H. Pomeroy and A. E. Aikins, vice-presidents; F. L. Fuller, secretary; F. T. Pomeroy, treasurer. The road will be placed in operation to Medina within thirty days, and the extension from Medina to Wooster will be completed as soon as possible.