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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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Contents of this Issue

Co-operation as to Return Circuits

A discussion which recently took place at a meeting of the Western Society of Engineers at Chicago, an abstract of which is given in another column, brings to mind one or two points in connection with the maintenance of return circuits and the prevention of electrolysis that have not been brought out prominently heretofore. Mr. Ellicott, city electrician of Chicago, made a plea for the co-operation of the various street and elevated railway companies of that city in regard to the maintenance of return circuits with a view to the prevention of electrolysis. The general idea of the co-operation of the various companies operating in the same territory is a good one, though it was not plain from Mr. Ellicott's paper why the application of local and specific remedies to local specific troubles and defects is not what is needed, rather than a general reconstruction of the return circuits, especially as it is stated in the same paper that the general condition of return circuits in Chicago is good, and that most of the defects are local and easily remedied.

It has been a common experience in electric railway practice, and may be laid down as a general rule, that unless the return circuit system as a whole is in bad condition the conditions which are likely to cause electrolysis are due to very local and comparatively small defects, and that the secret of avoiding electrolysis is in watching for and remedying these small defects as fast as they become apparent. In regard to the co-operation of various companies, it is not always an easy matter to get competing companies to work together, even if it is to their mutual advantage. When it becomes more generally understood, however, that there is a decided mutual advantage in conference and co-operation between companies operating in the same territory in regard to return circuits there will be more of it. For example, it is rare that two companies operating in the same territory have power houses near together. Now, if the tracks of the two companies are interconnected the effect is practically to put the two power houses in series, returning the negative current of one through the generators and trolley feeders of the other in the districts near the two power houses, except as to any excess of current one station uses over another. The tracks and other grounded metallic structures between the two power houses act as a kind of equalizer connection except so far as they carry current from cars in operation on or near them. This point is fully explained by a correspondent in this issue. This being the case, it is to the interest of two companies to tie their tracks together, even if the return circuit of one is in much better condition than the other.

Chicago Franchises

The various developments of the franchise situation in Chicago have been noted frequently in these columns. The present suspense as to the outcome is detrimental both to the companies and people of Chicago, for no company is going ahead with extensive improvements with the possibility, however remote, that it will have no rights on its principal streets after 1903. That some kind of settlement must come soon is evident unless the courts should decide in favor of the companies in the suit, based on the ninety-nine-year act. The press and people of Chicago should realize that settlement of the question in some reasonable and feasible manner must come soon. That such is beginning to be the case the following editorial from the Chicago *Record-Herald* shows; especially coming, as it does, from a paper which has not in the past been remarkably friendly to the street railway companies. As an example of good sense it is to be commended to the entire Chicago press. The editorial, it should be explained, was called out by a conference General Manager Robert McCulloch, of the Chicago City Railway Company, had recently with the Council committee on local transportation, in which he intimated, as has been done before, what the Chicago City Railway Company stands ready to do as soon as the franchise question is settled. The longer this settlement is postponed the longer will improvements be delayed, and the people of Chicago are the chief sufferers.

This the Chicago *Record-Herald* evidently realizes from the following, which appeared under the head, "Settle the Street Car Question":

With the Chicago City Railway Company standing ready to spend $10,000,000 in making its street railway system the best in any city in America, what excuse, save politics, has the administration for postponing a settlement of the terms upon which the company is to have a renewal of its franchise?

It is clear to every reasonable citizen that the company cannot go ahead and invest any such sum in the betterment of its system and service while the terms of its franchise are in doubt. The officers of the company have given the administration to understand that it expects to pay a reasonable compensation to the city for renewal of its franchise and to give assurance of a service over which there can be no complaint.

As an earnest of what this company proposes to do it has contracted for 120 vestibule cars, each costing $6,000, for its Clark Street line. It has also offered to install an underground trolley system north of Harrison Street on its main lines. If this offer were changed to apply north of Twenty-Second Street it might well be accepted by the authorities.

It would demonstrate in Chicago what has already been successfully demonstrated in New York and Washington, that the underground trolley is not only feasible, but preferable, for streets in the business section of the city.

If Mayor Harrison has any excuse for refusing to enter into negotiations for a settlement of the franchise question on some sensible basis giving adequate compensation to the city and improved street car service to the public, the *Record-Herald* would be pleased to publish it. But there is no reason or excuse in his hanging back and talking about reduced fares, compensation and better service. With four-cent fares there can be no compensation to the city, no better service for the people.

It is time that the administration ceased making faces at this problem and began negotiating for its sane settlement.

The Ideal City

Tom L. Johnson, now Mayor of Cleveland, is always entertaining, and in his latest pronunciamento sustains his reputation for putting things in a manner that will arrest attention. He has contributed to the latest number of the *Saturday Evening Post* a long article on the "Ideal City," the theme and burden of which is not individual righteousness, but the desirability of municipal ownership and "free car rides." Let us quote Mr. Johnson himself:

"The ideal system of municipal ownership of street railways would give free transportation to everybody. At first blush this may seem an extreme step, but that is because we have not been used to looking at the matter in the right light. In every great office building a system that is in many respects the counterpart of the one I suggest is maintained in the elevator service. All comers are carried in the elevators free of charge. No one dreams of collecting a toll or of insisting that, in the absence of such a toll, the person wishing to be sent to the upper floors use the stairs. The maintenance of the elevator service falls upon the tenants of the building, for it is included when the rent schedules are fixed. The tenants in turn pass it along to their customers and clients. Everyone who pays a lawyer's bill has the elevator service charged somewhere, though he may not find it set out in detail. The burden scattered among all the tenants and their clients is so minute, and the results in comfort are so decided, that no one dreams of abridging the service, even though by so doing the rents might be somewhat lowered. Our free streets and roads form another instinctive precedent for free street-car service."

We are trying very hard to see this matter in the "right light," as Mr. Johnson puts it, but the effort is a vain one on our part. How any man in his senses can compare the use of elevators in an office building with the use of street cars passes our comprehension. To note only one point, the people who use the elevators do so on business; the pleasure travel is nil. On the other hand, street-car travel is very largely made up of people who are going around for sheer "fun"—shopping, making calls, going to the theater, indulging in an excursion out of city limits. Yet all this wholly personal, selfish, non-productive load Mr. Johnson would throw on the municipal cars. Besides, in addition, all the loafers and bums and deadheads in town, instead of haunting the public benches and the free-lunch saloons, would work the cars to an unlimited extent, getting warmth, shelter, change of scene and victims, all for nothing. Who could stop them? Who would be able to refuse them a right to enter the car? Who would venture to dispute a seat with them? We pity from the depths of our heart any misguided community that ever allows itself to be plunged into irremediable bankruptcy by any such wonderful scheme as this. The whole article, however, should be read, for we have but culled one of its passages.

Long Cars on the Chicago City Railway

For many years there was a theory that long closed cars with center aisle and cross seats were not suited to heavy city traffic. This theory was held by the street railway management in Chicago, as well as most other cities. When long cars with cross seats began to be used in such cities as St. Louis it was still claimed that with the very heavy traffic of Chicago such a car would not be suitable. When Capt. Robert McCulloch took charge of the Chicago City Railway as general manager he decided, after much thoughtful consideration of the problem in all its aspects, and in the light of his experience with long cars in St. Louis, to order a few long, cross-seat, center-aisle cars for use on one of the most important and heaviest traffic trunk lines that the company had. The result has been a convincing demonstration of the fitness of such long cars of this type for the heaviest city traffic. This has been demonstrated unquestionably by the fact that the few long cars that have been in operation on the Wentworth Avenue & Clark Street line of the Chicago City Railway have been run on the same schedule as the short cars, which are also operating on that line. There seems to be no more difficulty in maintaining schedule time with the long cars than with the shorter ones. At first thought it would seem difficult to account for this refutation of the theory that long cross-seat cars, with the narrow center aisles, could not receive and discharge passengers as quickly as the old type of car with side seats. The objection of delay in discharging passengers has been, of course, the one that has been urged most frequently against the long cars. The fact that there is no more delay than with short cars can be accounted for in various ways. Capt. McCulloch himself, who designed the cars, thinks that no small part of their success in this way is due to the comparatively wide aisle which is used. For example, many center aisle cars have a width of only 20 ins., measuring between the tops of the seats. In the new Chicago City Railway cars the aisle is 28 ins. wide between the tops of the seats. As the backs of the seats are a little narrower than the seats themselves, the aisle is, of course, not as wide as this at the bottom. While this 8 ins. in the width of the aisle is apparently a rather small point it makes much difference as to the facility with which a conductor can get through a crowded car, and makes it much easier for passengers to get from the middle of the car when the aisles are crowded. This, however, does not account entirely for the fact that there is no difference in the schedule time made by the long, as compared to the short cars, for even if passengers can make way along the aisles with equal facility in either case there is the length of the aisle to be considered and the distance that the passenger must necessarily travel from the midle of the car to the platform. It seems, therefore, that it must be true that the majority of passengers make it a point to be near the step at the time the car stops, and that, consequently, it makes little difference how long it takes them to get from their seats to the platform, as this is all done before the car stops. Of course there are some passengers that will remain seated until the car stops, but they are a relatively small proportion, and when a car is very much crowded the passenger is all the more likely to make his way to the platform before the car stops, because there is always the small possibility that the conductor will not see him, and will start the car before he reaches the platform.

The Chicago City Railway cars were described in the Street Railway Journal of March 2, 1901, and enough more of these are now almost completed to entirely equip the Wentworth Avenue line of that road. These cars have 34-ft. bodies, 5-ft. vestibules, and contain twenty-six cross seats. They are equipped with four motors and air brakes, so that the facility of starting and stopping is equal to that of any single-truck car with two motors. They are probably as expensive a street car as was ever put out

for regular service, not only on account of the length, weight and equipment, but because of the construction of the car body. Solid mahogany finish is used to finish the interiors. The management in designing these cars attempted to make as good a car as it was possible to build. There was no attempt to save money at the expense of quality. The car represents the ideas of the Chicago City Railway Company as to modern equipment, and will probably be put on all of the lines of the Chicago City Railway when the franchise question is settled, so that the company is justified in going ahead with improvements.

The Increase in Personal Injury Cases

One of the most serious problems which is confronting electric railway companies, especially those operating in crowded city streets, is that of the steady increase during the last ten years in damage suits for personal injuries. Owing to the congested condition of the courts before whom these cases are tried, the conclusion of any particular case, and the award of judgment, is not reached for several years after the damage has been caused, so that the figures paid for the last year are not a fair criterion of those incurred during the year of operation. Nevertheless, these figures are increasing at an enormous rate, and justify a demand that the courts revise their methods of assessing damages so as to correspond more nearly to modern conditions of transportation. An instance of the way in which these figures have increased is shown in the damage claims paid, as given below, by the Brooklyn Rapid Transit Company for 1901, as compared with the Brooklyn Heights Company in 1895, and with their predecessor, the Brooklyn City Railroad Company, a decade ago. Car miles were not reported in 1891, so that the final figure in that year cannot be given.

	Year	Total Amount of Damage Paid During Year	Per Cent. on Gross Receipts	Amount per Car Mile
Brooklyn Rapid Transit Co...	1901	$1,157,593	9.88	$0.032
Brooklyn Heights R. R. Co...	1895	181,657	4.50	.010
Brooklyn City R. R. Co.....	1891	64,614	1.83	------

This road is not cited because the figures are to any extent unusual, but to indicate the tendency of the courts, certainly in New York State, to hold street railway companies accountable to the same extent for damages when the cars are running at the speeds attained by modern electric cars, as when they trailed along behind a slow-going pair of horses. Now, this is manifestly unfair. The development of higher speeds has been due to a demand on the part of the public, which is no longer content with the 4 miles or 6 miles an hour gait of the old horse car. The business of the public has been adjusted to this new condition, and any return to the slow speed formerly used is practically impossible.

It is a well recognized principle that every step in advance in any art is accompanied by certain drawbacks. This is preeminently true in electric railroading, and it should be thoroughly understood that this higher speed at which the cars now run, and which is required by the public, demands on the part of pedestrians on the streets, greater precautions than when light 16-ft. cars, which could be stopped within a few feet, were the only rolling stock employed. In other words, this reasonable demand made on the public for the exercise of greater precautions against accident is a simple and legitimate *quid pro quo* for the benefits which they derive from the better transportation systems which they now possess.

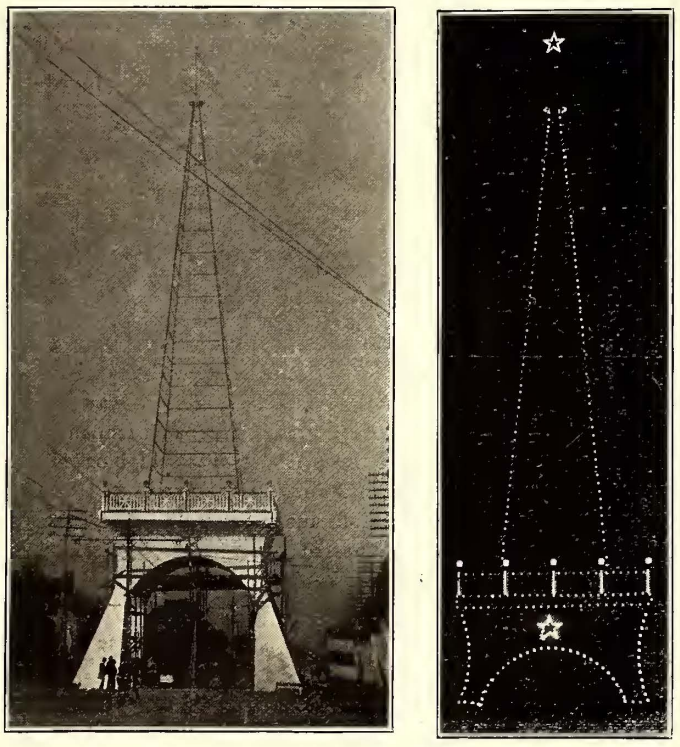
This argument for fairer treatment is entirely apart from the flagrant evil of "ambulance chasers," which has grown to such enormous proportions during the last decade, largely on account of the stringent treatment of the railway companies by the courts in personal damage suits. While the fact itself that a large part of the litigation before the courts for this class of cases is fomented by professional accident lawyers should not act as a bar to or contract the legitimate rights of a *bona fide* plaintiff, yet it is only fair for the courts to take into consideration the fact that a large part, if not the greater part, of this kind of cases brought before them is fraudulent. It is a well recognized legal maxim that the governing principle of the courts should be to discourage, not to increase, unnecessary litigation, and if it be found that under any course of procedure the cases of a certain kind tend to increase and monopolize the attention of the tribunals of justice, it is perfectly proper, indeed it is the duty of those in charge, to take such steps as will reduce the sum total of this kind of litigation. The time has now come when the railway companies can fairly claim some relief from the excessive burdens which have been put upon them as a result of the retention of outgrown damage suit traditions and procedure. They are supplying in transit what the public requires, and should be allowed a reasonable freedom in the exercise of this duty to the city. They cannot be expected to give twentieth century service while tied down to nineteenth century obligations.

Automobile Versus Trolley

If the newspaper reports from Colorado are to be trusted, a steam railroad there is about to retaliate for a trolley invasion by operating automobiles in the territory of the offender. The Denver City Tramway Company has, it would appear, been pushing its lines into the northern coal fields, or is now planning an extensive movement of that aggressive character; and by way of further aggravation, the Colorado & Southern Railroad Company, which would be the sufferer by this move, is also, it is said, blocked by the same influences in its endeavors to electrify some of its own suburban lines. This being so, the Colorado & Southern is credited with an intention of putting on lines of competitive automobile omnibuses next spring, with the specific object of cutting into the business of the Denver City Tramways, steam automobile busses being used, each having the capacity of an ordinary street car. This would suggest a very pretty fight, the outcome of which would be quite interesting. We have heard of this idea before, but the previous propounders of it do not seem to have been quite so serious as the present advocates in Colorado. At the same time they may have something to learn. It is said, for instance: "The advantage the Colorado & Southern will have with its automobiles over the tramway cars is that the lines will be operated with a third of the expense." Now that strikes us as a rather gratuitous assumption, if indeed it has been soberly and actually put forward. We have followed automobile history quite closely and consider ourselves fairly well informed as to the status of the industry, but we have never seen any results with gasoline, steam or electric automobiles that would warrant for a moment the belief that they can compete with the trolley any better than the old horse stages could do. The strongest efforts have been made to develop traffic with automobile omnibuses, but we do not know of any instance in which there is the slightest approximation to a profitable business on a five-cent basis, even without the "transfer," which in most American cities cuts the fare to less than three cents. We can readily believe that there is a place for the automobile in assisting to handle traffic where tracks do not run, but that is quite different from competition. In fact, Mr. Vreeland, in New York, has often expressed the wish that rich people who ride in the Metropolitan cars and do not get a seat and kick about it, would stick to the automobiles instead. It is not a secret to anybody that he is connected actively with automobile work, and stands ready to promote it with all his characteristic energy and ability; but he recognizes that, as a general "proposition," automobiles are not likely to furnish cheap transportation, but must develop a grade of traffic higher than that catered to by the all-embracing, plebeian, democratic nickel. This, however, is not the scheme of the Colorado & Southern. It is distinctly stated that the railroad has no intention of putting on automobiles to do a general cab business, but that its busses "will take the place" of street cars, and will have regular schedules and routes. Here, then, if this be true, the "issue is joined," and while we have no doubt as to the result, it will interest us greatly, as well as most of our readers, to see the idea squarely tried.

Electrical Displays at the Richmond Carnival

On the occasion of the recent carnival at Richmond, Va., an important feature of the celebration was the elaborate electrical display and decorations employed in different parts of the city. The main decorative feature was an elaborate arch constructed of wood and iron, and illustrated in the two accompanying engravings, one of which showed the decorations by day and the other by night. As will be seen, the outlines of the arch were shown by



VIEW OF TOWER BY DAY AND NIGHT

lines of incandescent lamps, while a star composed of clusters of lamps was placed at the top of the tower which surmounted the arch itself. The principal feature of street railway interest in connection with the carnival was the fact that part of the illumination of the tower was provided by electric railway headlights, which were also used to considerable extent in the city in connection with the other illuminations. The headlights on the tower were the five lights seen in the night view just above the arch, and located one on each of the pilasters. They were loaned for the occasion by F. Boykin Jacobs, Southern agent for the Syracuse changeable headlight of the Crouse-Hinds Electric Company, of Syracuse. This is the first time, so far as known, that electric railway headlights have been used for decorative purposes, and their employment offers a suggestion in other cities where illuminations form a prominent feature of a celebration.

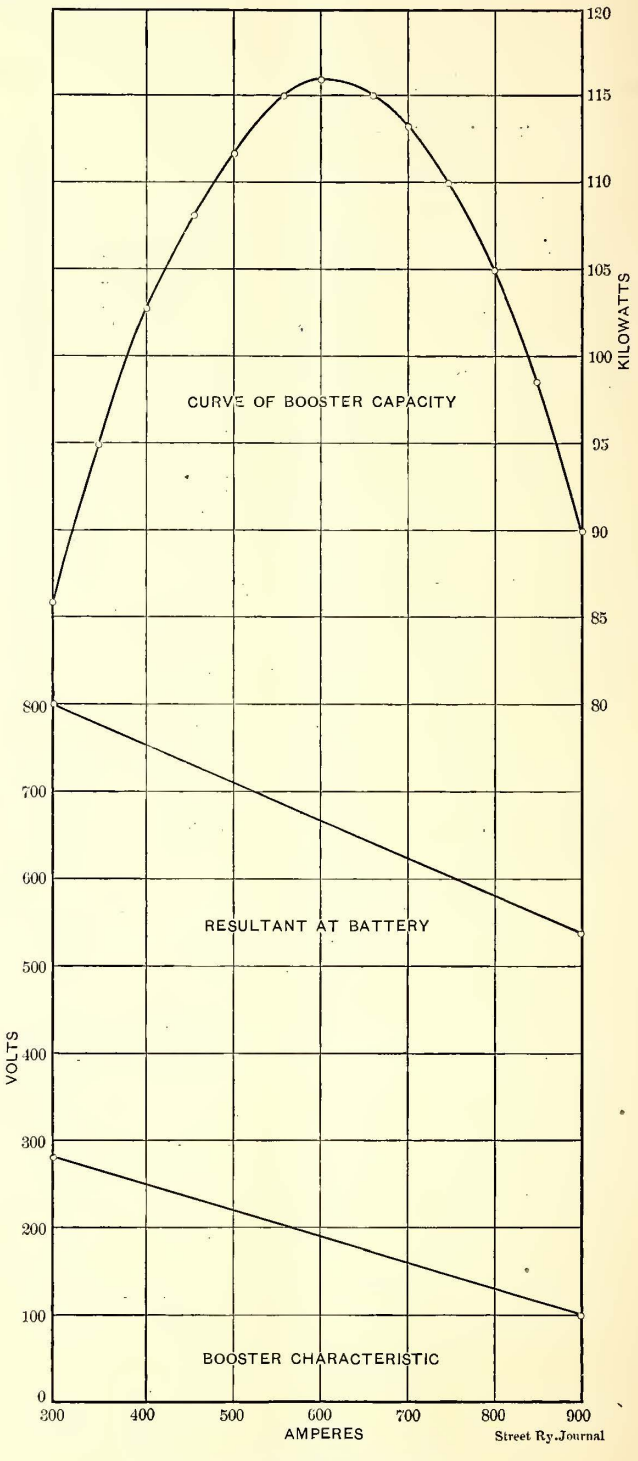
The Richmond Carnival was held Oct. 7-12, inclusive, one week, and was a great success, the elements co-operating by superb weather. Its object was the betterment of the city, extension of its business, and advertising its climate, industries and manufactures; it was directed somewhat after the style of the New Orleans "Mardigras," the night pageants being very beautiful; in fact the celebration was a street fair and carnival combined. Ten thousand electric lights were strung across Broad Street for a distance of about half a mile, making it as bright as day. In addition to the headlights on the arch, about thirty or forty others were in use, adding greatly to the brilliancy of the scene; there were five in use on the arch, ten at the Carnival headquarters, four in the T. P. A. booth, four in the animal show, three in the Streets of Cairo, and others were scattered in different places in one and twos.

Dick, Kerr & Company, of London, have been awarded the contract by the London County Council for the complete generating plant to operate its surface railways. Alternating and direct-current apparatus will be required, and Ferranti engines will be used. J. G .White & Company, Ltd., of London, have received the contract for the equipment of 16¼ miles of single track of conduit line for this system. It will be installed in Tooting, a suburb of London, and the amount of the conduit contract was £180,000.

Storage Batteries on the Baltimore & Ohio Railroad

BY R. C. HULL

In May, 1901, a test was made on the Belt Tunnel installation at the Baltimore & Ohio Railroad Company, at Baltimore, for the purpose of determining the value of a storage battery adjunct to



BOOSTER CURVES

the power station. Following is a brief outline of the conditions of service at the time of test:

The length at haul is about 3.6 miles; the grade is all in one direction—northward—and reaches as high as 1.8 per cent.

One electric locomotive is used at a time, and this only to haul the trains northward, the south-bound trains being permitted to coast. The passenger trains are hauled from Camden station to Mt. Royal station, which is situated at about the middle of the line. In addition to this, the freight trains are pushed from Mt. Royal station to the end of the line. The power station is situated near Camden station, and the haulage to Mt. Royal station was operated at about 575 volts. When the locomotive worked beyond that point the voltage was raised by a simple booster.

Wattmeter readings in the station showed, for thirty-six trains,

an average load throughout the day of 175 kw, an average load while the locomotive was in service of 525 kw, and a maximum load of 1300 kw. Moreover, the maximum comes at the starting of the locomotive, and is, therefore, an impact load on the station. The resulting strain was so great that when the locomotive load only was on the station it was found necessary to keep three 500-kw generators in service.

When the question of the storage battery was taken up, it was noted at once that the load was in no way similar to that of the street railway, with its rapid fluctuations above and below a gradually changing average. It was, however, closely analagous to that of an electric elevator, the curve of performance showing a heavy initial load, a sharp descent due to rapid acceleration and a practically steady load throughout the run. This was especially noticeable on the through express trains, as the acceleration on them was much greater than on the freight trains. The former, however, would consume about four minutes in going through the tunnel, while it would take the latter sometimes twenty-six minutes to go over the entire line. Moreover, one train would often follow another, starting as soon as the preceding one dropped its locomotive. In this manner there was a load for one hour and fifteen minutes, practically without intermission, averaging about 1200 amps.

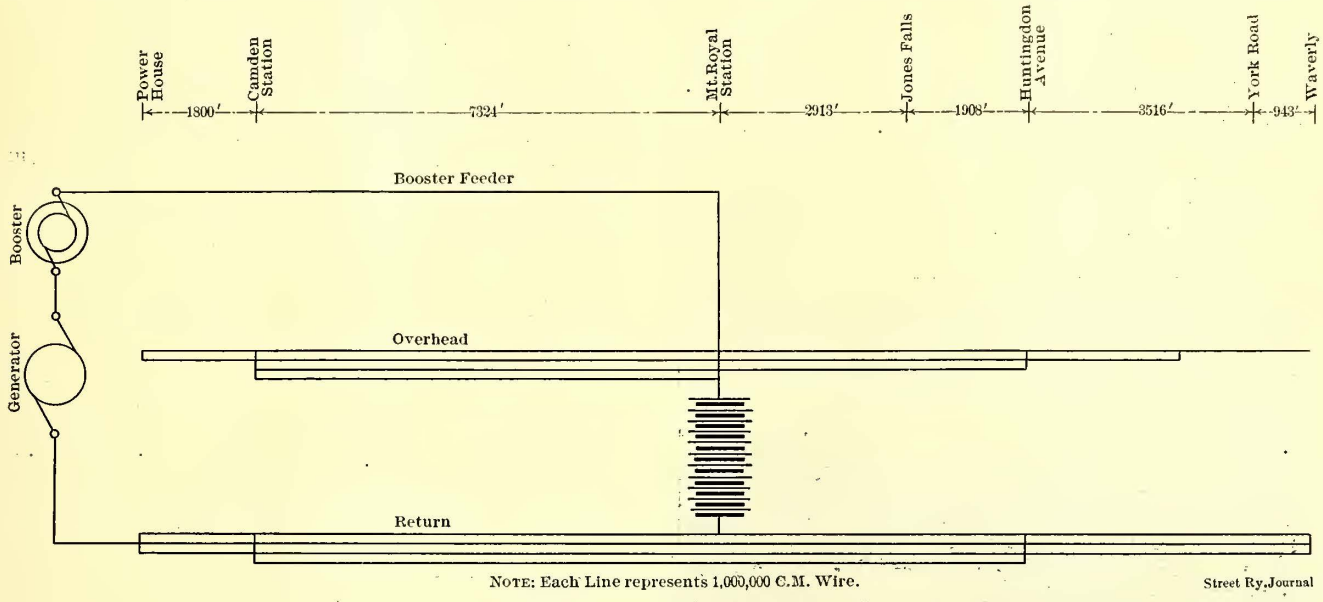


DIAGRAM OF BOOSTER AND LINE FEEDERS

It was therefore necessary to consider a battery, not only capable of taking the fluctuation due to starting, but of a capacity sufficient to carry a steady load due to continuous haul. The operation of two trains simultaneously, one from Camden and one from Mt. Royal station, was also considered, and had to be allowed for in determining the size of the containing tanks.

The battery was installed by the Electric Storage Battery Company, and consists of 320 cells of chloride accumulator, type G-39, in tanks of suitable size to contain fifty-one plates. It has a present capacity of 1520 amps., and an ultimate capacity of 2000 amps. at the hour rate of discharge. It is situated at Mt. Royal station, and is, consequently, at about the middle of the line. The connections are shown in the feeder diagram, and are similar to those used in electric elevator regulation.

The booster is of the type known as "constant current," having a shunt field fed from the main busses and a reversed series field. As the generators are of a capacity of 500 kw, it was deemed advisable, for the present, to use that capacity in regulation, in order to decrease the size of the battery. The series field was, therefore, made weak enough to allow a current of 900 amps. to pass through the booster at 100 volts, which, with the generator voltage, is enough to overcome the drop in the line at that current and equal the battery voltage at discharge. At 300 amps. the boost is 300 volts, which, with the generator voltage, is sufficient to overcome the drop in the line at that current, and give, at the battery, a voltage of 800 volts, which is the charging rate when the battery is fully charged. The greater part of the time the booster will work about midway between the two extremes.

In calculating the distribution, the question resolved itself into the best disposition of the feed-wire on hand, which was found to be amply sufficient. These facts were taken into consideration: The heaviest load comes at Camden station, the greater part of the haulage is between Camden station and Mt. Royal station, at Huntingdon Avenue the grade lightens. The results obtained from the distribution as laid out have been excellent, the voltage at no time dropping below 575.

The switchboard has one interesting feature, in that the circuit breakers can be operated from the signal tower, thus obviating the necessity of having a man continually at the battery house. This is accomplished by attaching the handle of the circuit breaker to the armature of a solenoid magnet in circuit between the booster feeder and the ground. Electric lamps in the circuit controlled by each breaker indicate when it is tripped. The signal operator can then close the circuit breaker by pressing a push-button switch.

Since the battery has been installed the voltage has been maintained at a much higher and steadier rate and the express schedule through the tunnel has been lowered about three-quarters of a minute.

Several weeks ago, owing to a cave-in of one of the tunnels on the Philadelphia, Wilmington & Baltimore Railroad, the Pennsylvania Railroad traffic was diverted through the Belt Tunnel, and 165 trains were hauled through by the locomotive in one day. The battery showed no ill effects, although it was only erected to take care of thirty-five trains, and the service was so excellent that the question of the advisability of running all Pennsylvania through trains by way of the Belt Tunnel has been raised. Recently the power station was put out of service for four hours in order to make certain connections, and the entire work was done by the battery without trouble.

A New Construction Company

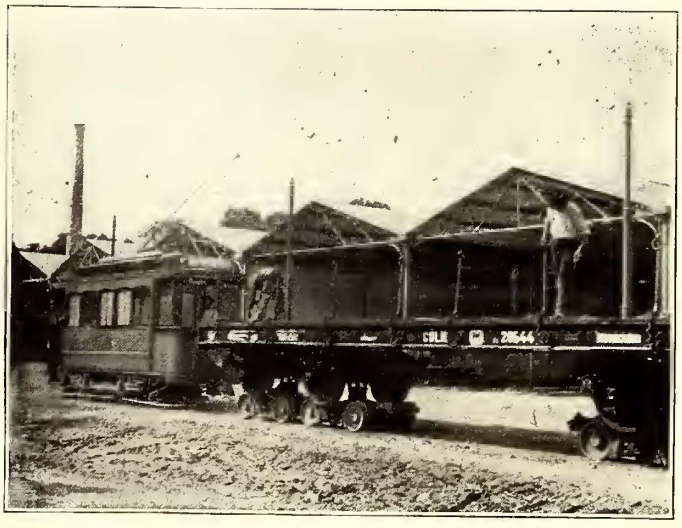
A new construction company, which will make a specialty of electric railway work, was recently organized in Milwaukee, Wis., by Clement C. Smith, formerly second vice-president of the Falk Company, of that city. The new corporation will be known as the Columbia Construction Company, and will have its offices in the Colby & Abbot Building, Milwaukee. It possesses a particularly strong personnel, and has already received a contract for the equipment of an electric line from Oshkosh, Wis., to Omro, a distance of 9 miles, from the Winnebago Traction Company.

Mr. Smith, president and general manager of the new company, has had a long experience in contracting work with the Falk Company, with whom he has been associated since 1896, and also in practical electric railroading. He is well known in railway circles, and possesses the highest respect of all who know him for enterprise and high business principles. Mr. Smith's associates in the Columbia Construction Company are George P. Miller and W. H. Miller, of Milwaukee. George P. Miller, vice-president of the new company, is of the firm of Miller, Noyes & Miller, who are prominent corporation attorneys in Milwaukee, and who are the attorneys for the Milwaukee Electric Railway & Light Company, Milwaukee Heat & Traction Company, and their allied interests in the State, for the Wisconsin Telephone Company, First National Bank, Milwaukee Trust Company, the Wisconsin Trust Company, and for many other institutions of equal prominence.

Mr. Miller was associated with United States Senator John P. Spooner, of this State, as attorney for receivers of Northern Pacific Railway Company, several years ago, and has had a very large experience in the financial and other details of electric and steam railways. He is also a director in the First National Bank of Milwaukee, is president of the T. A. Chapman Company, which is the principal dry goods house here, and is also engaged as director in several other large institutions. William H. Miller, who is a brother of the vice-president, is manager of the T. A. Chapman Company, and has been elected secretary and treasurer of the Columbia Construction Company. With this strong company it is safe to predict an excellent business future for this new concern.

Hauling Freight Cars on a Narrow Gage Trolley Line

The accompanying illustration shows the method of transferring ordinary freight cars into the center of Geneva, Switzerland, over the narrow gage tracks of the Geneva Electric Railway Company. Two special trucks are required for each freight car. These trucks are connected rigidly together by a girder, joining the centers of each bolster, and the standard gage freight cars are run into place by means of an inclined track. It is stated that a freight car can be loaded on to these narrow gage trucks in two minutes, and can be taken down in five minutes. The car is held



HAULING FREIGHT CARS ON NARROW GAGE TROLLEY LINE

in position on the trucks by means of adjustable braces. The use of narrow gage roads is so uncommon in this country that the application of the method does not seem to have much importance here in the form in which it is used in Switzerland. It may, however, offer a suggestion where the step or groove of the street railway rail is not high or deep enough to accommodate the M. C. B. flange of the steam railroad car. If freight cars, with their loads, could be hauled directly to any point on an electric railway track, and so avoid the transhipment of the freight and its haulage by wagons through the city streets, a great economy would result, and much delay, noise and other inconvenience and nuisance inseparable with the present method of the handling of freight would be avoided. While not so desirable, of course, as the use of street railway rail, which would permit the haulage of the steam freight cars directly on the street railway tracks, the plan offers a possible substitute where this method is not available.

The New York, New Haven & Hartford Railroad Company is making some important improvements in its power station at Berlin, Conn., which supplies power to its Berlin, New Britain and Hartford third-rail division. Heretofore the current from this station has been supplied exclusively by direct-current machines. The company is now installing in this station two 850-kw General Electric alternators to be driven by Buckeye engines in place of the direct-current machines. Sub-stations will be located at New Britain, Hartford and Plainville, and also at Meriden to supply power to the Meriden Street Railway line, which is controlled by the New York, New Haven & Hartford Railroad Company. Power will be distributed at 13,000 volts.

The company is also planning to equip with electric power its Dedham branch, near Boston, and will here undoubtedly employ a multiple-unit system, as this will permit trains to be run from Boston, and be divided in two to pass around in each direction the loop at the end of the Dedham branch.

Protection of Water Pipes from Electrolysis

E. B. Ellicott, city electrician of Chicago, presented a paper before the Western Society of Engineers at Chicago on Nov. 6, on the "Protection of Water Pipe from Electrolysis." He noted the numerous suits that had been begun on account of the electrolysis of water pipes at different times and places and the conflicting testimony that had been given by experts in these cases. After all testimony had been given, Mr. Ellicott said it was often difficult to make conclusions, but the fact remained that holes had been eaten in water pipes, and that the electric railway current was usually responsible for it. He showed by a diagram a condition which he said had frequently occurred in the city of Chicago, in which the electric railway return circuit was in good shape except in one or two points where broken bonds would cause the current to take the water pipes and leave them again at a point nearer the power house, thereby causing electrolysis. The longer electrolysis of iron or lead continues, the better conductor the surrounding earth becomes on account of the metallic salts in solution therein. The tendency to electrolysis is, therefore, increased as time goes on, not only on account of the depreciation of bonds and underground joints, but because of the increase in the conductivity of the surrounding earth. He mentioned the requirements of the city of Chicago in regard to the condition of return circuits. These requirements do not allow a greater difference of potential than 3½ volts between the water pipes and rails at any point, and do not allow a greater drop of potential in the return circuit than one-half volt in 300 ft. of straight track. These requirements the street railways in Chicago had been perfectly willing to conform to. The presence of elevated roads, however, has a tendency to complicate matters, so that it is difficult to determine whether it is the elevated or street railway company that is responsible for conditions in some localities. Mr. Ellicott took the position that the street and elevated railway companies of Chicago should confer together and take more concentrated action in regard to the condition of their return circuits. While steps had been taken by the companies individually to remedy any faults as fast as they were discovered, such action was purely individual, and afforded only local relief. He thought that if the companies conferred together and reorganized and reconstructed the return circuits of all the systems operating in Chicago, conditions could be much improved by the expenditure of a very small amount of time and money. The general condition of the return systems he admitted to be good. What Mr. Ellicott contended for was the maintenance of a uniform difference of potential between the pipes and rails at all points. It was at places where there were variations in this potential within a short distance that trouble occurred, he said, and these were the points that needed attention.

In discussion, Richard McCulloch, assistant general manager of the Chicago City Railway, spoke of the conditions existing a number of years ago in electric railway practice when the return circuits, especially on the smaller roads, were in very bad shape because so little was known regarding their actual condition and so little care was taken to determine it. All this is now changed, especially as regards the larger companies, which watch the condition of their return circuits very carefully, as it is to their interest to do so. He referred to the fact that the Chicago City Railway has a greater cross section of copper entering the power houses on the negative or return side of its system than it has on the outgoing trolley feeders. Referring to the point Mr. Ellicott made that a uniform difference of potential should be maintained between the rails and the pipes in all points of the city, he considered this impracticable, because of the difference in the conductivity of the earth and the varying proximity of rails and pipes. He described the method used by his company to investigate the conditions of the return circuit near the power house. Pressure wires are run out for a distance of one-half mile from a power house, and recording voltmeters are inserted at various points along this pressure wire between it and the rails. These recording voltmeters are left in for a long enough time to determine the conditions existing during twenty-four hours, and defects in the return near the power house can be discovered and remedied. He believed a well bonded track to be the secret of a successful return circuit and prevention of trouble from electrolysis. He thought that whatever troubles might occur from electrolysis were due to negligence.

In answer to some questions as to the conductivity of cast welded joints, as compared to an equal length of unbroken rail, Mr. McCulloch referred to some tests he made several years ago on cast-welded joints which had been in the ground for several years on some special work. These joints were sawed out and taken to a power house where a large current could be passed through them. It was found that they had 80 per cent of the conductivity of the rail. He also cited the fact that an acquaintance of his is carrying out a contract in Europe for cast welding 10,000

rail-joints, the conductivity of every one being guaranteed as equal to that of the rail. A large portable storage battery is taken around, and as soon as the work is completed a large current is passed through the joint to test its conductivity. If it falls below the conductivity of the unbroken rail by as much as 1 per cent the joint is sawed out and replaced by a perfect one.

Mr. Ellicott maintained that the resistance of the earth did not vary much, and gave the method used by his department for testing the current flowing between rails and water pipes with a given voltage. For example, suppose it is found with the voltmeter that there is 3 volts difference of potential between the water pipes and rails at a certain point. By means of a portable battery a voltage equal to the difference of potential between the water pipes and rails is opposed to the voltage of the railway current. This opposing voltage is then doubled. The current which then flows will be equal to the current flowing between the water pipe and rail in practice because the potential difference between pipe and rail is the same as in practice. Thus, if the voltage between pipe and rail is found to be 3 volts the opposing voltage furnished by the portable battery would be raised to 6 volts. There would, therefore, be 3 volts of the railway current opposed to 3 volts of the battery. The remaining 3 volts of the battery current would send a current between pipe and rail equal to that flowing where there is a simple difference of potential of 3 volts between pipes and rails due to the railway current.

The Annual Meeting of the Verein Deutscher Strassen und Kleinbahn Verwaltungen

The seventh annual meeting of the Verein Deutscher Strassenbahn und Kleinbahn Verwaltungen was held at Stuttgart on Sept. 5 and 6, 1901. It was attended by ninety representatives of street railway companies. The delegates and visitors were welcomed by the Imperial Railroad Commissioners, the city officials, the president of the technical high school of Stuttgart and the local railway officials, and most of these geneltemen remained during the sessions and took part in the discussions. A sad incident, which somewhat marred the otherwise happy spirit of the delegates, was the death of the president of the local street railway company, which occurred three days previous to the opening of the convention.

The first business on the programme was the reading of the annual report. From this report the following abstracts are taken:

The society has a membership of 112 companies, owning 158 roads. Accurate statistics are constantly being prepared in regard to the exact status of all German street railway companies, and the government appropriates 3000 marks for this purpose, also paying for the printing of the society's reports in this connection.

In connection with the work of the Elektrotechnische Verein a list of questions was sent to sixty-one gasworks, thirty-six waterworks and ten gas and water works, asking these companies whether they could definitely report any damage done to their pipes by stray street railway currents. The replies received showed that in only two or three out of ninety cities in which electric cars are operated have any troubles with underground pipes been noticed, and these occurred in every instance where the current density was very great. It was a very encouraging report, and sets at rest many skeptical views held by a large class of people.

The receipts during the year equaled the expenses, namely 23,798 marks, which is a satisfactory condition in view of the society's increased activity and expense account.

Director Fromm, of the carworks at Kelsterbach a. Main, then read a continuation of last year's paper on the latest improvements in brakes used by electric railway companies. The paper contains very little which is new in the way of technical details, but the drawings which accompanied the paper, showing the construction of the various types of brakes, give a good idea of the present status of the brake question in Germany.

The author divided and subdivided the subject as follows: A. Short-circuit brakes. B. Electromagnetic brakes—(1) Electromagnetic brake of Siemens & Halske A. G.; (2) electromagnetic brake of the Union Elektricitäts-Gesellschaft; (3) solenoid brake of Siemens & Halske; (4) electromagnetic brake of the Elektricitäts Aktiengesellschaft, formerly Schuckert & Co.; (5) electromagnetic brake of the Allgemeine Elektricitäts-Gesellschaft, Berlin; (6) electromagnetic track brake of the Union Elektricitäts-Gesellschaft. C. Air brakes. D. Other brakes—(1) The Planta electromechanical emergency brake; (2) the friction brake used by the Leipzig Electric Street Railway Company.

The latest type of the Union brake controllers (short-circuit brakes) is so constructed that when the controller is on the first notch a small shunt current is sent through the magnetic brakes of the car and trailer, which at once demagnetizes the brake. This at once frees the brake.

The short-circuit brake is dependent on the motion of the vehicle and cannot be counted on to bring the same to a standstill on a down grade. It is necessary to employ a hand brake in addition. The electromagnetic brake of Siemens & Halske is so designed that a heavy car and trailer can be brought to a standstill by using a braking current of 40 amps. The brake is not intended to be used continuously for braking on a down grade. The solenoid brake is a very simple device, and has a lift of about 140 mm and a pull on the chain of about 400 kg. No troublesome oiling is necessary with this form of brake. Wherever used (Mannheim, Berlin, Vienna, etc.) the brake has given entire satisfaction. The Schuckert electromagnetic brake consists of a cast-iron drum which revolves in a case consisting of two parts, and is keyed to the shaft. Two strong electromagnets, which are supported and swing in the case, surround the drum. When no current flows through the coils they are kept away from the drum by springs, but when current flows through them they press against the iron drum and brake the car. The drum is continually oiled and is supported on the truck by springs so as to avoid shocks.

The braking force in the electrical brakes of the Allgemeine Elektricitäts-Gesellschaft is provided by solenoid coils, into which is drawn a plunger to which the brake rigging it attached. The mechanism is simple, and no parts are subject to wear except the brake-shoes, which can be renewed at no great expense. As the current consumption is small, the overhead current is employed for safety. The electromagnetic track brake of the Union Company is an improved form of the Schiemann brake. The braking is most direct, powerful, free from jars and serviceable during all kinds of weather conditions.

The advantages of the air brakes may be summed up as follows: Always ready for use, quick action, simplicity of operation, easy variation of braking power within wide range, can be used on long downward grades, its uniform and jarless action and no extra load on the motors. The disadvantages are: High first cost, the necessity of constant and careful supervision and overhauling of all braking parts by trained men, the occasional freezing of valves and pipes, frequent repairs and the 400-kg excess weight added to the car.

The Standard Air Brake Company's brake is most commonly used in Germany (Berlin, Leipzig, Munich, Dusseldorf, Prague, etc.). The Westinghouse brake is used considerably in other countries, and the Carpenter brake has been tried in Hanover. The Christensen air brake used on the London and Paris underground roads is now being introduced on the Berlin elevated road. The cost per car, with axle compressor, is 900 marks; with motor compressor, 1700 marks, exclusive of piping and mounting. The Hardy vacuum brake has recently been tried on the locomotives of the Albthal road, where ten to twelve cars constitute a train.

The mechanical friction brake in use at Leipzig, which is operated by the momentum of the car, has the advantage of extreme cheapness, that it is simple to operate, and that it consumes no extra power. The brake has given entire satisfaction.

A most interesting paper on "Safety Appliances on Electric Street Cars" was then read by Chief Engineer Poetz, of Hamburg. The report was compiled in compliance with the resolution adopted at the forty-sixth general meeting of the Freie Vereinigung der Betriebsleiter Rheinlands, Westfalen, etc., which has been referred to in these columns. The resolution was adopted because the manager of a certain road had claimed that he had invented a fender which would work wonders, and attempted to force its use by writing letters to the city authorities stating that it was due to the desire of street railway companies to economize that his fender had not been adopted. His claims had naturally no foundation in fact, and his report on accidents on his road had to be materially corrected before it could be inserted into the official report of the society. Mr. Poetz reached the following conclusions:

(1) The wheel guard which is permanently located directly in front of the wheels, as it is used in Germany, has so far not been surpassed by any other type of fender. To insure the proper operation of this wheel guard it is desirable that it be situated from 7 to 8 cm above the pavement and that the car be equipped with an efficient brake.

(2) The guardboards at the sides between the wheels and the equipment of the trailers with similar track clearers is strongly recommended.

(3) Nothing definite can be reported in regard to the efficiency of rod sand nets fastened to the platforms, which can be grasped by the person struck, as well as the guard gates between motor cars and trailers.

A large number of reprints of this report were ordered by various companies. A report closely allied to the above was that compiled by the secretary on the accident statistics, to which reference will be made later.

A paper was then read by Chief Engineer K. Sieber, of the Nürnberg-Fürth Street Railway, on various economies which he has effected on his road. He found the expenses of the road entirely out of proportion to the income when he first took charge of it, and then explained a number of measures which he had introduced to increase the net profits. He strongly recommended the proper training of the employees and frequent trips on the part of the officials to different cities and countries for an exchange of experiences and opinions. The storeroom is an important factor in operating economy. A suitable keeper should be employed, and the disposition of material should only be by requisition. A well-organized storeroom and good bookkeeping in this department form the basis of all savings in the operation of street railways.

The author then took up each separate department and suggested where savings might be effected by close observation and careful management. In the power house the coal should be frequently tested; it should contain from 10 to 40 per cent moisture. Legitimate mistrust is the basis of modern business. The coal should be weighed and the heating value be ascertained at intervals. An efficient grate should be selected, and the brickwork of the boiler should be frequently inspected, say every three or four weeks. The boiler should not be shut down too frequently, because each stoppage means a consumption of from 1000 to 1500 kg of coal, and also affects the brickwork. All piping which is not in use should be cut out of service; the author has effected a saving of 16 per cent by this means. All doors to the engine and boiler rooms should be carefully closed at night, so as to avoid an excessive loss of heat from pipes and machinery. The starting of a 500-hp engine costs about 10 to 15 marks. It is economical to build a case around the fly-wheels, so as to avoid the loss of power due to air friction. This will effect a saving of about 1½ per cent. Furthermore, the author claims there is often too much lubrication; in other words, too much oil is wasted. He highly recommended the system of the Vacuum Oil Company. There is also a most economical voltage at which a system can be operated. With a low voltage the efficiency at starting is greatest. This, however, causes the cars to run more slowly and consume more current, which in turn causes greater line losses and greater difficulty in braking. On the other hand, if the voltage is too high the efficiency at starting is low, and many of the advantages of high voltages are more than made up by this and other losses. There is a mean point which is most economical. At Nürnberg this is between 530 and 560 volts. Considerable economy may be secured by employing the three-wire system, thus reducing the drop of pressure in the rails. This has been done on the writer's lines, the return cables being utilized for feeder purposes. All of these remarks apply to systems extending from 12 to 15 km in any direction. The author urged a frequent inspection and measurement of the various circuits, and reported that not a single wire had fallen down in Nürnberg during the past year.

The cars, naturally, require frequent inspection. Axle breaks and bends should not occur at all, and weak material should at once be replaced by heavier. Car-wheel pairs should not differ in diameter more than by one-tenth millimeter. A properly-handled wheel should operate over at least from 150,000 to 200,000 km.

As has been pointed out by an author in the STREET RAILWAY JOURNAL for July, flat treads for car-wheels are preferable to conical ones. A good mixture for brake-shoes is one-half cast iron, one-half cast steel; they last from two to three times as long as cast-iron shoes. The best lubricating material for wheel journals is undoubtedly oil.

The controller contacts should preferably be made of copper. All controllers should be supplied with blow-outs.

In regard to the motors, they should be connected in series-parallel, which will reduce repair costs and current consumption. A good motor should not show more than 5 per cent in armature repairs.

In order to reduce current the cars should run easily, and to test this it may be stated that a single truck, receiving a slight push, should travel over a level distance of from 100 to 200 m. The truck with motors should be capable of being propelled by one man. A 9-ton car with a starting speed of 25 km should run over 400 to 450 m without current. The current should be cut off from the motor on downward grades, as about 40 per cent of the current can be saved in this manner. The maximum speed of the cars should be about two or three times as great as the average speed. The rule should simply be that "the motorman should run slowly wherever it is necessary."

In regard to the track the author strongly urged the greasing of the rails at curves. The report closes with a table, in which Mr. Sieber enumerates the savings during the months of January to July, 1901, over the expenditures during the corresponding months in 1900. They varied from 6¾ per cent for current consumption per car kilometer to 77 per cent in boiler cleaning.

Then followed a discourse by the chairman of the convention, Director Roehl, on the training of motormen. This was called forth by recent legal decisions relating to railway accidents, the courts holding that the railway companies must be more careful in the selection of their motormen. They believed that three days' instruction in the car house and ten days' instruction on the line was not sufficient. The speaker pointed out that it did not require any extra skill or knowledge to become a motorman; in fact, no more so than to operate any other vehicle in the same city. It is necessary only to teach the motorman the mechanism of the controller and give him a little experience in the handling of the same. Within eight days the company can discern whether the candidate can properly fill the position. All he has to acquire after those eight days is judgment in regard to street traffic. For this reason it is advisable to place new motormen on less frequented lines. The cry of the newspapers, especially during strikes, that special intelligence is necessary for the position of motorman, and that for this reason especially high pay can be demanded, is entirely unfounded.

It has been found advisable not to teach the motormen too much theory, but simply to instruct them in the mechanical handling of the car, for they are liable, if they are told more than is absolutely essential, to attempt to make repairs on the controller and other parts of the car, generally causing more damage than benefit. If it is impossible to run the car, even after the fuses have been replaced, it is high time that it is returned to the depot, and it is not advisable to permit the motorman to try his hand at repairing.

The Grosse Berliner Strassenbahn makes an exception to this rule by giving a certain amount of theoretical instruction to its motormen. This company has also found out by experience that machinists are not well adapted for motorman service, because they are too willing to make repairs. All this leads to the conclusion that former horse-car drivers make the best motormen, because they are better acquainted with street conditions. The speaker was of the opinion that the bodily and mental work to be done by horse-car drivers is far in excess of that required of motormen. The former, in addition to watching the street, also have to watch their horses and drive them. The motorman, on the other hand, needs not expend any physical energy in the management of his controller.

Resolutions were adopted to the effect that the time required to instruct a motorman depends on the mental qualifications of the applicant, but that in all cases from eight to ten days is sufficient to teach him all that he has to learn. If he cannot learn in this time he never will.

The committee on "the grounding of all current-carrying parts of a car" reported progress, and five new members were added to the committee.

On the second day the session was opened with a discussion of the opinions of the Prussian street railway companies in regard to the Street Railway Law of 1892. As it has been found that in spite of this law cities can impose almost all kinds of conditions on private corporations, the law referred to may almost be termed inoperative.

General Secretary Vellguth then read his annual report on the accidents during the past year. It was compiled from the replies received from eighty-six companies, which ran 202,364,006 car km and transported 692,153,116 passengers. The report contains many valuable tables, and concludes with a compilation of the results, as follows: There was a decrease in (a) passenger accidents on leaving car, collisions with vehicles, too rapid rounding of curves and derailments; (b) accidents to pedestrians due to the motorman's neglect; there were no accidents to children and only four to adults. There was an increase in (a) accidents to passengers on entering car, collisions between two cars and various causes; (b) accidents to pedestrians due to collisions; out of fifty accidents of this kind nineteen were wheelmen.

In regard to the relative merits of various safety devices the author claimed that the wheelguard carried directly in front of the wheels is as effective as any other device. The reduction in accident cases is due to the improvements in brakes and the greater care exercised by the public. Very little definite information can be reported in regard to the efficacy of safety devices between motor cars and trailers.

The author dwelt for some length on the erroneous report on this subject submitted by the Hanover Street Railway Company, and showed how disastrous it is to pay a premium to a motorman for saving a life, for it invites them almost to chase pedestrians so as to present a claim that the latter were saved.

Mr. Vellguth then presented the statistics on all the German street railways. The preparation of this work was undertaken in answer to a request by the Minister of Transportation, who appropriated 3000 marks for this purpose, and also paid for the publication of the report. The basis for this work was the report on

the German trunk lines, prepared by the Verein Deutscher Eisenbahn Verwaltungen. The question paper contained five main divisions, as follows: (a) Track construction; (b) rolling stock; (c) extent of system; (d) receipts, expenses and disposition of surplus; (e) accidents.

As the work has to be systematized on account of its magnitude, the following rules will govern the report in future: (1) All replies must be based on facts, and not on estimates; (2) all replies must be submitted in such a way as to correspond to the questions, as this will facilitate compilation.

The statistics show for Prussia 119 street railways and 159 other small roads; for the remainder of Germany, 48 street railways and 12 other small roads; total, 338 roads. The questions were answered by 105 out of 119 street railway companies and 139 out of 159 other small roads in Prussia, and 43 out of 48 street railway companies and 9 out of 12 other small roads in the remainder of Germany; or a total of 296 out of 328 roads; so that returns from 44 roads are still missing.

The next general meeting will be held in 1902 at Düsseldorf, where an industrial exhibition will be held during that year. The convention then adjourned *sine die*.

London Letter

(From Our Regular Correspondent.)

The arbitration committee appointed by the Board of Trade in the system to be adopted by the Metropolitan and District underground railways when they convert from steam to electricity sat once this month, the Hon. Alfred Lyttleton sitting as arbitrator. The Metropolitan Company, which favors the Ganz system, asked for a further delay to provide evidence and expert witnesses, which was granted them, so that the whole matter has once more been postponed for a month or so. In the meantime Mr. Yerkes and the Metropolitan Company have been indulging in a rather acrimonious correspondence in the *Times*, each blaming the other for the previous delays, which has served little purpose. The action of the Ganz Company in asking for more time, however, appears to uphold Mr. Yerkes' claim. The daily papers are steadily getting more pessimistic in their criticisms of the District and Metropolitan railways as statistics go steadily to show a regular and sure falling off in both companies' receipts, which in everyone's opinion will never be raised again until the electrification is completed and new management put in control.

Messrs. J. G. White & Company, Ltd., of London, have just received a most important contract from the Bournemouth Town Council for the overhead and underground construction of the municipal tramways which are to be installed in that town. The contract is for £162,458, of which £93,721 is for the overhead division and £58,152 for the conduit division. Messrs. Lacey, Clirehugh and Sillar reported on the conduit system tenders as follows:

> There are in all five tenders, the lowest of these being from J. G. White & Company, their prices being £58,617 with center-slot system, and £58,152 with side-slot system.
>
> We have looked through the whole of the drawings showing the electrical portions of the proposed works. The designs appear to be very good, and, judging by the description accompanying the drawings, the difficulties of conduit construction appear to be well met. Ample allowance has been made for the proper alignment of the conductor rails, double insulation is provided on all parts carrying current, and the bonding, both of conduit rails and track rails, is satisfactory. The plow trap, the plow, the plow carrier, and the automatic switches for changing over the current supply from the overhead line to the conduit conductors are on the same principle and design as those which the deputation of your Corporation saw recently in Paris, and are, so far as we know, the most satisfactory apparatus for this work.
>
> Having regard to the unique experience which Mr. Connett, the engineer responsible for the designs, has had upon electrical conduit work, both in America and on the Continent, we have every confidence in recommending his firm for this contract.
>
> J. G. White & Company tender for two forms of conduit construction, one with the slot at the rail and one with the slot in the center of the track. The Council would be quite safe in accepting either of these systems, but we would point out that in the case of the center-slot system there is a considerable amount of metal on the face of the roadways, and the cost is some £480 higher.

This is the first contract that J. G. White & Company have received in Great Britain, and it is interesting to note that they have been successful in getting a contract which calls for an underground conduit system passing through the busier portions of the city. This will practically be the first electric conduit system in Great Britain, and the work will doubtless be watched with a good deal of interest. Contracts will also soon be placed by the Town Council of Bournemouth for the power house and other work, but these have not as yet been let.

Canon Fisher, vicar of St. Peter's, Bournemouth, through a portion of whose churchyard the corporation is carrying the local tramways, has announced that when the question of compensation comes before him he will decline to accept one farthing, as it is not a case in which compensation can be accepted for that which is taken from God's service.

Burns' cottage at Alloway and the adjoining monument on the banks of the Doon attract annually a larger number of visitors than does any other literary shrine in the United Kingdom. Last year 45,100 tickets of admission were sold, and the Ayr Town Council resolved the other day to construct an electric tram service from the "auld toon" to the famous cottage—a distance of two miles.

The first annual exhibition of labor-saving machinery and novelties in engineering and electric trades will be held at the St. James' Hall, Manchester, from March 6 to 15, 1902. Machinery in motion will be one of the chief features of the exhibition, and every effort will be made to meet the requirements of exhibitors in this respect. The St. James' Hall is the finest exhibition building in the provinces, and it is in the center of Manchester, midway between the principal railway stations. The exhibit is in charge of Walter Cawood, of Manchester.

The Douglas Town Council has decided, by sixteen votes to five, to buy the undertakings of the Isle of Man Tramways & Electric Power Company, now in liquidation, for the sum of £50,000. It was urged by the supporters of the purchase that a profit would be realized in excess of the £2,000 per annum at present received as royalties.

The Ilford District Council has accepted the tender of Messrs. Macartney & McElroy, of London, for the track and permanent way for the tramway undertaking. The contract amounts to about £66,000, and has to be completed in nine months. This firm also recently received another large order from the Glasgow Corporation for an extension of the present system, amounting to about £30,000, which, with their Brighton work and many other contracts, keep them quite busy.

The Corporation of Wolverhampton is making a most important experiment in electric traction, which, if it proves successful, will make that city the mecca of all tramway engineers for some years. When, a few months ago, it was decided to adopt electric traction in the city, Earl P. Wetmore, of the Lorain Steel Company, succeeded in inducing the tramways committee to install the Lorain surface contact system, and this system is now being put in, the work being well along toward completion. The lease granted to the Wolverhampton Tramway Company expired last year, and their undertaking, so far as it existed within the borough, was acquired by the Wolverhampton Corporation, which also purchased the Wolverhampton & Dudley line up to the borough boundary, the other portions of the tram lines outside the borough becoming the property of the British Electric Traction Company, who are doing valuable work in South Staffordshire in bringing the outlying populations in touch with the different important towns within their sphere of operations. The municipalization of the tramways had been the subject of much discussion by the members of the Wolverhampton Town Council, and when the lines became its property the question arose as to what system of propulsion should be adopted. Some years previously the Corporation had erected works for the electric lighting of the borough, and it was decided that electricity should be used in connection with the tram system, and that new sets of rails should be laid throughout the borough, and the overhead mode of traction adopted, this, however, as stated above, being changed later to the surface contact system. This surface contact system has never been tried before in Great Britain, and, in fact, the Lorain Company has not got very much to refer to as experience in this line, the United States not having adopted surface contact systems with any freedom. There are only a few systems on the Continent operated by surface contact, so that the experiment in Wolverhampton will certainly be watched with great interest. That a city of the size of Wolverhampton should take the lead in making an experiment of this kind is extremely meritorious, and if the system proves a success it will undoubtedly lead to other cities using some kind of conduit system, as there is a growing objection to overhead wires in England, where top-seat cars are standard and likely to remain so.

A. E. Rossignol has just been appointed by the Newcastle tramways committee to the position of general manager of the tramways. Mr. Rossignol has hitherto filled the position of resident engineer during the construction of the tramways under the expert engineer, Mr. Hopkinson. The new manager will undertake the complete control and management of the working of the new electric trams, and will have to devote the whole of his time to the duties of the office.

The Board of Trade has at length issued its order authorizing the establishment of a system of tramways for the city of Bath and its suburbs, and the work of construction is to be proceeded with by the promoters (Sir James Sivewright, Leopold Hirsch, and others) forthwith. The order follows the lines of the agree-

ment entered into between the promoters and the Corporation, who supported the application for statutory powers made by the outside promoters upon terms which had been arranged. These were somewhat interfered with by the Light Railway Commissioners, who refused to let the Corporation receive an annual wayleave of £400, rising after five years to £450, and after a further five years to £500, and ordered a capitalized sum to be paid to and expended by the Corporation in street widenings on the lines of the route. The amount to be paid was settled by an actuary, who awarded the Corporation £11,400, a very considerable advance upon the sum which had been expected. As to the terms of purchase at the end of thirty-two years if the Corporation so desires, some difficulty arose from the fact that part of the lines are outside the borough, but in this respect the Corporation has gained its point, for the order says if the other purchasing authorities do not acquire these portions of the lines the Corporation may do so. The Corporation has already given notice to compulsorily acquire the existing horse tramways, and under its agreement with the promoters will hand them over at the price paid, plus all the costs incurred.

At the first annual ordinary general meeting of the Norwich Electric Tramways Company the chairman, Baron E. B. d'Erlanger, in the course of his remarks, said they would see that the total earnings amounted to £35,665, to which had to be added a sum of £700 for interest on moneys deposited. Against this their expenses had amounted to £22,497, so that the tramways had been worked, in round figures, at just under 61 per cent of the gross receipts. They were of opinion that the earnings should increase steadily over the past year's figures, but the expenses of operation should remain nearly the same; the increase would therefore practically be additional net profit. On the item of coal alone there ought to be a saving in this year's operations. They had run 924,789 miles, transported 7,816,222 passengers, their average receipts per car mile had been 9.25d., their average cost per car mile had been 5.83d. To conclude, their present profit and loss account showed that, after allowing for debenture interest, there was a distributable balance of £11,566 2s. 5d., out of which they proposed that a dividend at the rate of 4½ per cent upon the paid-up capital for the time being be declared, absorbing £10,864 1s., and that the balance of £704 1s. 5d. be carried forward.

W. J. Cooke, vice-president of the McGuire Manufacturing Company, of Chicago, who has been in this country for the past three or four months, assisting Messrs. McGuire & Baucus to organize the European McGuire Manufacturing Company, has returned to the States, well satisfied with the outlook. In the meantime the European McGuire Company has taken a large factory at Bury, Lanc., which, under the energetic supervision of Mr. Buxton, is now just about ready to manufacture trucks in England. The McGuire trucks are now in use successfully on the London United Tramways and on the cars of many other companies and corporations, while the special trucks which were built for the Central London Railway are giving great satisfaction.

A. C. S.

The Consolidation of the Everett-Moore Lines

The result of the arrival in New York last week of the members of the Everett-Moore syndicate was the circulation of various reports regarding the plans of the syndicate, as confusing as they were numerous.

It can, however, be authoritatively stated that the mission of the members of the syndicate to this city was not for the purpose of consolidating the syndicate's lines in Ohio, Michigan and Indiana, as has been stated, but to complete the details of the consolidation of the Detroit United Railways Company, which controls the city lines at Detroit, and the suburban lines extending from that city, all of which are now controlled by the syndicate, with one exception. Among the lines that it is understood will be consolidated are the Detroit United Railways Company, Detroit & Pontiac Railway, Detroit & Northern Railway, Detroit, Rochester, Romeo & Lake Orion Railway, Detroit & Port Huron Short Line, and the Detroit & Wyandotte River Railway. The Detroit, Ypsilanti & Ann Arbor Railway, which extends from Detroit to Ypsilanti & Ann Arbor, will not be included in the consolidation, for the efforts of the Everett-Moore syndicate to purchase this road from the Hawks-Angus syndicate, which controls it, have proved futile..

The several roads will be consolidated as the Detroit District Railway Company, but the capitalization of the new company is not known. It has, however, been known for some time that the blanket mortgage of $50,000,000, with which it was proposed to cover the entire Michigan properties of the syndicate, was considered too large, and altogether undesirable by the holders of the underlying bonds on certain of the acquired properties, and it develops that the prospective bond buyers in the East shared in this opinion when it came to a final settlement. In Detroit it was stated on the best of authority that it had been decided to reduce the amount of the mortgage to $26,000,000, leaving only $4,000,000 in the treasury with which to acquire certain properties held under option. On the other hand, it was stated at Cleveland that the amount would be reduced to $30,000,000. The directors of the Detroit United Railways, however, at a meeting in New York, Nov. 9, arranged to issue bonds to the amount of $35,000,000. The bonds are to bear interest at 4½ per cent, and are to cover the entire properties of the Michigan division of the syndicate. August Belmont & Company, the Guarantee Trust Company and the United States Mortgage & Trust Company were named as trustees of the stockholders.

It is admitted that the syndicate plans to form a controlling company that will be the parent organization of the entire properties of the company, but this new company will not be formed until the consolidation of the Cleveland properties has taken place on lines similar to those followed with the Michigan properties. It is understood that the "Cleveland District Railway" will not include all of the Ohio properties owned by the syndicate. The Lake Shore Electric Railway and the Toledo Railway & Light Company will, it is understood, be separate. The Cleveland consolidation will, however, include the Cleveland Electric Railway Company's lines, and the interurban lines radiating from Cleveland. The magnitude of the plan for the consolidation of all the properties of the syndicate prohibits the rapid consummation of this plan, which was reported in the press as having been accomplished.

It is understood that the plan of the syndicate is to establish a permanent office in this city, and it has been reported that Guy Morrison Walker, a former resident of New York, who has been connected with the syndicate for some time, will be placed in charge of the New York office. Among the members of the syndicate who are in New York at the present time on business connected with these roads are H. A. Everett, E. W. Moore, Guy Morrison Walker and J. C. Hutchins.

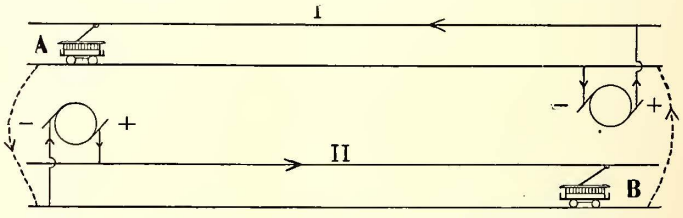
The Return Circuit of Two Companies

Chicago, Nov. 10, 1901.

Editors Street Railway Journal:

In connection with the question of the drop of potential in the return circuit of an electric road, a peculiar case came under my notice several years ago. Two different companies operated lines parallel with each other for several miles. One of these companies had a power house in the suburbs, the other had one part way down town.

The relative location of the power houses with reference to the two lines in question was roughly, as in the accompanying sketch. In making measurements along the line of the road marked I it was found, to the surprise of those handling the instruments, that the loss in the return circuit between the point *A* and the



power house at the other end of the line, which supplied it, was much less than at other points on the system, supplied from the same power house, and equidistant therefrom. A little study revealed the fact that the two power houses belonging to different companies were practically in series, as far as the supply of current to cars on adjacent portions was concerned. To make an example easily understood, suppose, as in the accompanying sketch, that there are only two cars on the two lines, and that they are in the positions indicated. The current supplying the car at *A* will partly find its way from the track under the car through the ground, and underground metallic structures to the negative bus of the power house near that point, as indicated by the dotted line and arrows, after which it will form part of that flowing through the generator and trolley wire to supply the car at *B*. At *B* a similar operation takes place. The current flowing to the car at *B* returns partly through the power house, and over the trolley wire of the other road. In other words, the two power houses are in series, and as long as a balance is maintained little current has to return through the rails and return circuit of either road from the points adjacent to the other's power house unless the ground resistance between a power house and the end of the other line is high.

C. R. Jackson.

Annual Meeting of the Manhattan Railway Company

At the annual meeting of stockholders of the Manhattan Railway Company, held Nov. 13, President Gould presented the following statement of operations for the year ending Sept. 30:

MANHATTAN RAILWAY COMPANY

COMPARATIVE STATEMENT FOR THREE MONTHS ENDING SEPT. 30, 1901 AND 1900

	1901	1900	Increase
Earnings from operation	$2,093,276.96	$1,889,600.89	$203,676.07
Operating expenses	1,312,130.28	1,236,710.79	75,419.49
Net earnings	$781,146.68	$652,890.10	$128,256.58
Other income	191,287.50	192,362.50	*1,075.00
Gross income	$972,434.18	$845,252.60	$127,181.58
Interest on bonds	454,004.88	454,004.88	.....
Taxes	178,345.64	172,919.63	5,426.01
Total interest and taxes	$632,350.52	$626,924.51	$5,426.01
Net income	$340,083.66	$218,328.09	$121,755.57
Expenses to earnings	62.66/100	65.45/100	2.77/100
Passengers carried	42,296,998	38,190,423	4,106,575

* Decrease.

MANHATTAN RAILWAY COMPANY

STATEMENT OF OPERATIONS YEARS ENDING SEPT. 30, 1901 AND 1900

Year ending Sept. 30	1901	1900	Increase
Gross earnings (all sources)	$10,455,872.30	$9,950,735.16	$505,137.14
Operating expenses	5,328,649.04	5,195,312.19	133,336.85
Net earnings	$5,127,223.26	$4,755,422.97	$371,800.29
Interest on bonds	1,809,680.92	1,816,309.27	*6,628.35
Taxes	873,451.23	872,335.12	1,116.11
Total interest and taxes	$2,683,132.15	$2,688,644.39	*$5,512.24
Net income	$2,444,091.11	$2,066,778.58	$377,312.53
Dividends: 4 per cent on $48,000,000	1,920,000.00	1,920,000.00	.....
Surplus for the year	$524,091.11	$146,778.58	$377,312.53
Surplus balance Profit and loss account, Sept. 30, 1899	.....	4,162,847.62	146,778.58
Surplus balance Profit and loss account, Sept. 30, 1900	4,309,626.20	.....	
Refund by city of New York, taxes heretofore charged against earnings	132,639.21	.....	132,639.21
Surplus balance Profit and loss account	$4,966,356.52	$4,309,626.20	$656,730.32
Operating per cent (Excluding all taxes)	50.97/100	52.21/100	*1.24/100
Operating per cent (Including all taxes)	59.32/100	60.98/100	*1.66/100
Passengers carried	194,152,316	183,788,851	10,363,465

* Decrease.

Mr. Gould added that while the results were very gratifying, he was glad to state that the current earnings were even more so. During the past year the improvement and enlargement of the company's facilities have been steadily pushed. The line from Tremont to Fordham has been completed, and put in operation since July 1, opening a highly promising field for growth.

The new terminals secured in the Bronx district have enabled the company to give additional and improved facilities to the public on the East Side lines, which have met with an immediate response in increased traffic. During the year the change to electrical equipment has made great progress. The buildings for central power station at East Seventy-Fourth Street and substations at Allen Street, Thirty-Fourth Street and Ninety-Ninth Street are completed, and the machinery is being rapidly installed in all of them. Motor equipments are arriving in quantity, and deliveries of 300 new cars will commence within two weeks. The company's engineers expect to turn the first 8000-hp engine and dynamo by Dec. 1, and run the first trains on Second Avenue during the month, to be followed up as rapidly as the equipment can be assembled and put in operation. There was no change made in board of directors except the filling of a vacancy, by electing E. N. Foss, of Boston, representing a large interest held in that city.

The following officers and committees were elected: President, George J. Gould; vice-president, Alfred Skitt; secretary and treasurer, D. W. McWilliams. Executive committee, Russell Sage, Samuel Sloan, R. M. Gallaway, Edwin Gould, Marcellus Hartley, Alfred Skitt, George J. Gould, Frank Jay Gould. Expense committee, Russell Sage, R. M. Gallaway, Edwin Gould, Howard Gould, Alfred Skitt, George J. Gould, Frank Jay Gould.

Work on the Manhattan Elevated System

One of the improvements incident to the installment of electricity on the Manhattan Elevated Railroad's system will be the new 110th Street station, which will be at Manhattan Avenue, on the great curve from Columbus Avenue and 110th Street to Eighth Avenue and 111th Street. With steam operation it was impossible to start and stop trains properly on this curve, but with the adoption of the multiple-unit system of train control it will be an easier matter. The construction already has been begun, an excavation for the foundations of the station being now in evidence, as well as some of the steel frames and girders for the structure.

For a long time—since the elevated went into Harlem, in fact—people living in the neighborhood of the curve, around the vicinity of the northwest corner of Central Park, have complained incessantly that they had to alight from or board their trains either at the 104th Street or the 116th Street station. Those who have their homes on the heights are especially incommoded in either case, both the long walk from 110th Street and the climbing up the hill from 116th Street being unpleasant.

The new station is to be the finest in the city, in respect to convenience and equipment. Eight large electric elevators will be employed to convey passengers from the ground level to the waiting rooms. The lower part of the building is to be used as one of the electrical sub-stations of the elevated, thus rendering unnecessary the purchase of a separate site in the vicinity.

The preliminary order for one hundred cars, which was made some months ago, and equally divided between the Wason Manufacturing Company and the American Car & Foundry Company has been supplemented by an order for 200 cars, placed recently with the Wason Company. The new power station is rapidly nearing completion, and current is expected to be taken from it in a few weeks. One of the first uses to which it will be put will be the illumination of the stations along the East Side lines.

Improving Discipline

The importance of a correct understanding of his duties by an employee of a street railway is no greater than that he should be willing to perform such duties to the greatest satisfaction of both patrons and management. The various systems of controlling their men which have been instituted by various roads have all been planned for the purpose of increasing the employees' efficiency by making greater his willingness to obey the rules. Within a week or so the Newton & Boston Street Railway Company, of Newton, Mass., has given to certain of its motormen and conductors well-merited awards, which are the culmination of a novel system of discipline. A year ago the superintendent of the company, Edward C. Spring, announced that two gold medals would be given on Nov. 1, 1901, one medal for the best record as motorman and one for the best record as conductor. The management specified that the judgment would be made upon the actions of the employee during the year in everything pertaining to the daily work upon the cars, and the men entered into the scheme with the greatest interest. The competition was so close that it was found advisable to have two silver medals awarded at the same time as the gold ones as second prizes. On Friday, Nov. 8, 1901, the medals were presented by President A. D. Claflin, of the railway company. Joseph Timoney and John Hendricks received gold medals for the best records as conductor and motorman, respectively, and the silver medals for second best records were given to William Wilson and John Kelley, respectively. The system, which has been in such successful operation for a year in

Newton, has been watched with much interest by other superintendents in New England and elsewhere, and the results obtained have shown that Mr. Spring's system under the conditions which exist on his road has been a most gratifying success. The factors which entered into the determination of meritorious conduct included, besides politeness to passengers and efficient handling of the regular routine duties, an ability to act promptly and satisfactorily in times of emergency. It is reported that the accident account has been decreased one-half over the year before, and a large share of this decrease should undoubtedly be credited to the merit system. The deportment of the employees has been improved in such a marked degree that it has called forth many compliments from the citizens of the vicinity. The admirable working of the idea has been so remarkable that the same plan will be carried out on the Newton & Boston Railway during the coming year.

McKinley National Memorial

Col. Allan C. Bakewell, of 479 Fifth Avenue, New York City, makes the announcement to the electrical interests of New York State that he is authorized by the New York State organization to receive subscriptions for the McKinley National Memorial Association, and he appeals to them to assist him in raising funds necessary for the erection and maintenance at Canton, Ohio, of a suitable memorial to our late beloved President. Checks should be made payable to the order of James G. Cannon, treasurer. No moneys should be paid to anyone purporting to represent Colonel Bakewell, unless they are provided with satisfactory credentials from him.

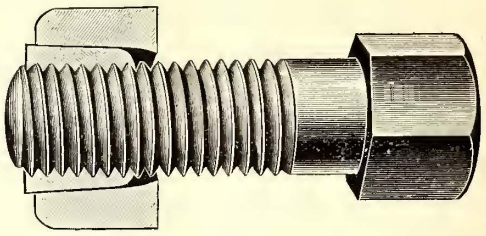
New Cars for the Metropolitan of Kansas City

Fifty closed motor cars have recently been built for the Metropolitan Street Railway Company, of Kansas City, Mo., by the St. Louis Car Company. These have a length over corner posts of 21 ins., with platforms 4 ft. 6 ins. in the extreme. The width over posts is 7 ft. 10 ins., over the side sills with panels 7 ft. 6 ins. The widest part of the car over the water tables is 8 ft. 3 ins. The platforms have permanent vestibules with five drop sash. The doors are quartered oak 1¾ ins. thick, with drop sash and two lights. The outside is paneled with No. 16 sheet steel. The ventilator sash are of oak, seven on each side. There are four guard pipes on the outside of the car, protecting the windows and running the full length of the body. These window guards are of half-inch seamless bronze tubing. The curtains are oakette on spring rollers. Hale & Kilburn spring-cushion, canvas-back, rattan seats, covered with the best quality Wilton carpet, are used. The interior finish is quartered oak of even color. There are two beveled-edge plate-glass mirrors on each end of the car. The cars are equipped with one Hunter sign, and are mounted on DuPont trucks with fenders. The brake staffs have 15½-in. iron hand-wheels.

NEW CAR FOR KANSAS CITY

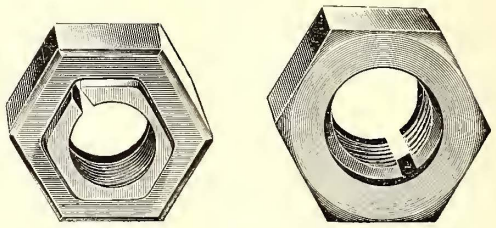
An Improved Lock Nut

The accompanying illustrations show the details of a lock nut offered by the Columbia Lock Nut Company, of New York City. As shown, the nut consists of an inner and an outer part, which when assembled form a single unit. The inner nut, which is threaded to receive the bolt, is slotted throughout its length and is tapered from above downward to fit and correspond with a taper in the outer shell or binding nut. Although only in two parts,



IMPROVED LOCK NUT ON BOLT

it combines the wedge, the screw and the lever. The following points of excellence are claimed for the nut by the manufacturers:



TOP AND BOTTOM VIEWS OF DOUBLE NUT

It is a positive lock nut, as well as an improved nut, which will remain indefinitely where placed; it automatically fastens both bolt and nut absolutely; it is a binding lock nut of immense power, because the greater the strain the firmer the grip; it does not injure the bolt and will never slack back or work loose; it will straighten the threads of an abused bolt, thus avoiding the necessity of recutting them; it does not require exact size or taper bolt threads, as it readily receives full or scant diameter bolts; it has no springs, washers, jam nuts, dogs, pawls, slots, pins or extra devices; it is more effective than double nuts and stronger than rivets; it will last a lifetime, and can never injure itself; it can be placed in any position, and can at any time be removed without injuring the bolt or without any special tools; it never diminishes its grip in expansion and contraction of metals, and it is of universal application. It is recommended by the makers as eective on locomotives, pitmans, wrists, kingbolts, rail-joints, fish-plates, piston rods, cylinder heads, steam pumps, air compressors, and all kinds of machinery, whether running smoothly or subject to extreme vibrations. It is also intended for use on axles, automobiles, carriages, wagons, railway cars and other vehicles. The nuts are furnished plain, semi-finished and finished, for bolts from ⅜ in. to 4 ins. in diameter. The nut has been patented in the United States and all the principal countries of the world, and its many features of novelty and excellence are sufficient to predict for it a large sale and general usage.

A third-rail line has been placed in operation between Milan and Varese, Italy. The line is about 46 miles in length, and the third rail acting as a conductor is placed between the tracks of a double-track line.

Street Railway Patents

[This department is conducted by W. A. Rosenbaum, patent attorney, 177 Times Building, New York.]

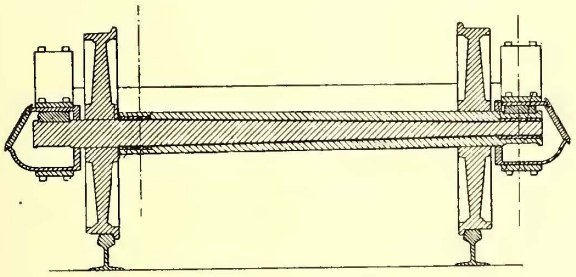
UNITED STATES PATENTS ISSUED NOV. 5, 1901

685,755. Controller for Electric Railway Motors; F. W. Garrett and E. W. Stull, Johnstown, Pa. App. filed April 8, 1901. To avoid the necessity of moving the controller handle to the off position before throwing the reverse in an emergency, the reverse lever is made to throw a high resistance into the circuit on its passage from one set of contacts to another.

685,781. Electric Railway Motor Controller; F. A. Merrick and E. W. Stull, Johnstown, Pa. App. filed March 13, 1901. Details of construction affording easy access when repairs are necessary.

686,017. Trolley; M. J. Wilson, Painesville, Ohio. App. filed Feb. 21, 1901. Details of construction intended to prevent the wheel from getting caught by the wire entering between the wheel and adjacent parts.

686,048. Emergency Brake for Street Cars; G. J. Gahring. App. filed March 25, 1901. A brake-beam is suspended transversely under the platform of the car; it is intended to be forced downward against the roadbed.



PATENT NO. 686,217

686,110. Car Mover; E. A. Munson, Grand Rapids, Mich. App. filed April 3, 1901. A shoe having a curved spring and a face opposite the spring shaped to conform to the spring, to prevent the latter from being crushed.

686,169. Car Fender; W. P. Tucker, Brooklyn, N. Y. App. filed Jan. 29, 1901. Details.

686,173. Car-Wheel; H. O. White, Boston, Mass. App. filed Sept. 7, 1901. A car-wheel having a grooved tread and rings in the groove, made of metal tending to prevent excessive wear on the brake-shoe.

686,217. Divided Axle Car Truck; E. W. Fairbanks, Los Angeles, Cal. App. filed Jan. 15, 1901. The axle consists of a hollow shaft enclosing a solid shaft, one wheel being attached to the former, and the other to the latter.

PERSONAL MENTION

MR. G. H. KOHLER, superintendent of the works of the Union Elektricitäts-Gesellschaft, Berlin, is in this country on a trip of investigation. It is expected that Mr. Kohler's familiarity with American practice will influence him largely in the purchase of new apparatus.

DR. F. A. C. PERRINE, president of the Stanley Electric Manufacturing Company, is taking an extended Western trip. While on the Pacific Coast Mr. Perrine is expected to investigate the operation of the many installations which have been rendered possible by his company and himself personally.

MR. HARDY CROOM, late of the City & Suburban Railway Company, of Savannah, with whom he was employed in the motive power department, having had a varied experience in street railway matters, has been appointed assistant superintendent of the Jacksonville Railway Company, of Jacksonville, Fla.

MR. JAMES B. NEAL, superintendent of the third division of the Boston Elevated Railway Company, has resigned from the company, and will retire as soon as a successor is appointed. Mr. Neal entered the railway service as a conductor about thirty years ago, and advanced to the position of superintendent by his loyalty and integrity.

PROF. GEORGE F. SEVER, of Columbia University, whose position as superintendent of electrical exhibits at the Pan-American Exhibition has brought him in contact with many manufacturers of street railway supplies during the past year, has been presented with a handsome gold watch by a number of exhibitors in Electricity Building.

MR. C. R. CRANE, vice-president of the Crane Company, of Chicago, has recently returned to this country after a most successful European business trip. He reports that the company has completed an extensive plant at St. Petersburg, Russia. The works adjoin the shops of the Russian Westinghouse Air Brake Company, in which Mr. Crane has a large pecuniary interest.

MR. CHARLES WILLIAMS, of Rome, N. Y., has been appointed superintendent of the Rome City Street Railway Company. Mr. Williams has had considerable experience in the operations of compressed air cars, having been connected with the companies operating these cars in New York and Chicago, and is well fitted for the position to which he has just been appointed.

MR. ANDREW CARNEGIE is at present devoting considerable attention to perfecting the final plans regarding the site, etc., of the new school of technology which he has promised to Pittsburgh. This school is to be one of the largest and best equipped of its kind in the world, and a commission of experts has decided that at least sixty acres should be donated by the city for its accommodation.

MR. JAMES W. GODFREY, general manager of the sales department of the India Rubber & Gutta Percha Insulating Company, was killed by being thrown from his carriage in New York on Saturday, Nov. 9. Mr. Godfrey was one of the best known men in the electrical industry, having spent many years in the employ of the New York Insulated Wire Company before forming the connection with Dr. W. M. Habirshaw, which lasted until his death. He was forty-six years old, and leaves a widow and two daughters.

MESSRS. C. W. BAYLEY, chief traffic manager, and O. WINDER, assistant superintendent of rolling stock, of the Lancashire & Yorkshire Railway Company, of England, have been in this country for some five or six weeks, studying American railroad practice. A considerable part of Mr. Winder's time has been devoted to an investigation of third-rail electrical operation, and with this in view he inspected the elevated roads of Chicago, as well as those of the New York, New Haven & Hartford Railroad. Nov. 12 was spent at Hartford, New Britain and Berlin, in company with Colonel Heft, in inspecting the third-rail road at that point. Messrs. Bayley and Winder returned to England Nov. 13. on the "Oceanic."

MR T. H. SYMINGTON, who was until recently superintendent of motive power of the Atlantic Coast Line Railroad, and later president of T. H. Symington & Company, of Baltimore, has accepted a position as representative of the Gold Car Heating Company, of New York and Chicago. Mr. Symington, who is a graduate of Johns Hopkins University, and who took the degree of Mechanical Engineer from the Lehigh University, had a number of years' practical experience in the shops and mechanical department of the Baltimore & Ohio Railroad. He left the Baltimore & Ohio to become assistant superintendent and general sales agent of the Richmond Locomotive Works, and during the past four years has been superintendent of motive power of the Atlantic Coast Line Railroad. His extensive experience and large railroad acquaintance eminently fit him for the position to which he has just been appointed.

MR. HENRY HART, formerly president of the Third Avenue Railroad Company, of New York, died at his home in that city Nov. 7. The cause of Mr. Hart's death is ascribed to old age, but it is believed that the trying ordeal incident to the reorganization of the Third Avenue Railroad, to which Mr. Hart had devoted his life effort, hastened his demise. Mr. Hart was born in New York City, on July 27, 1811. Mr. Hart's father, after having amassed a fortune in Canada, removed to New York, and impatient of the restraint of school life, at the age of thirteen Henry Hart declared and carried out his intention of carving his own fortune, independent of parental aid. This was entirely contrary to the desire of his parents, whose two younger sons received all the benefits of a college training. The building of the first surface railway in New York gave Mr. Hart his opportunity, and although in later life he had many other important interests, his best energies were always devoted to the Third Avenue Railroad. The Third Avenue Railroad was established in 1853, and Mr. Hart, as head of the road, witnessed the conversion of the line to cable, and later the abandonment of the cable for the underground conduit system. The death of Mr. Hart removes one of New York's most picturesque characters, for he was typical of the early promoters who made possible the New York of to-day.

FINANCIAL INTELLIGENCE

THE MARKETS

The Money Market

Wall Street, Nov. 13, 1901.

The general aspects of the money situation have undergone little change during the week. Last Saturday's bank statement completely upset calculations in regard to the changes in cash, the banks losing heavily where only a moderate loss had been expected. The disappointment in this respect, however, was partly offset by the unexpected decrease in loans which apparently indicated that the heavy liquidation of floating credits in the hands of foreign bankers had ceased to be the formidable incident in the situation that it was a month ago. Notwithstanding the contradictory nature of the published figures, the main outgo of currency to the interior has ceased, and henceforth the shipments to meet demands at the other centers will be counterbalanced by the return of money drawn out early in the season by the Western centers. The Treasury's bond purchases meanwhile are going on in fully as large amount as was expected, and with the addition of the constant remittances against gold arrivals at the Pacific Coast ports, are proving sufficient to compensate the banks for their loss on the export of gold to Europe. So far as present indications go, gold exports will continue for some time yet, but will not increase materially over their present volume. Sterling exchange has risen further during the week, and has now reached the point where shipments of gold to London, as well as to Paris, are probable. But as the London and Paris money markets are standing close together and working in perfect harmony at this juncture, it scarcely seems likely that this new complication will greatly increase the strain upon this country. Should the unexpected happen, however, it is certain that an unduly heavy outflow of gold would soon be checked by local money rates rising; there has been some intimation of this already, in fact, within the last day or two. As for the obvious possibility that the increasing needs of the present stock market speculation will throw another and more serious burden upon the banks, two minimizing facts are to be considered—one that the season of superabundance in local money supplies is less than six weeks distant, and the other that large sums of capital will probably be released in the near future, when the programme of the great Northwestern railroad consolidation is finally put into effect.

Money on call at the Stock Exchange has loaned freely at 4 per cent, with occasional advances to 4½ and 5. Time loans for all periods are held stationary at 4½ per cent.

The Stock Market

The signs of a renewal of the upward movement in stocks which were pointed out at the time of the last writing proved in the light of this week's events to have been quite correct. Prices have risen generally, and as a rule quite rapidly, dealings have expanded to an average of over a million shares daily, and the market as a whole has displayed the characteristics of a broad and active speculation, such as has not been witnessed since the culmination of the Northern Pacific corner, six months ago. The removal of the uncertainty regarding the disposition of the rival, and at one time openly hostile, interests in the Northwestern railway territory is the immediate cause of the advance. Whether or not a formal announcement of the terms of settlement is made the prevailing belief that a scheme of joint ownership of the Burlington system between the financiers identified with the Northern Pacific and the Union Pacific managements has been arranged is beyond much doubt correct. The general understanding is that the plan of harmony is much broader in its scope than the original limits of the Northwestern deal, and that it includes a satisfactory safeguard for the interests of the St. Paul and the Chicago & Northwestern railroads, which are the only other important systems in the northern section of the transcontinental railway field. Along with the general enthusiasm which has followed this new and greatest triumph of the community of interest principle, confidence has been inspired by the remarkably favorable showing of railroad earnings throughout the country, by the constant evidence that railway equipment is totally inadequate to move the great volume of freight now being offered, and by the indisputable proof in mercantile statistics and reports that the general volume of business surpasses anything that has been witnessed in the extraordinary period of prosperity during the last four years. Before these larger motives in the situation the misgivings which were excited by the loss of more than a third of the country's corn crop, by the decline in many branches of the export trade, and by the unfavorable conditions revealed in various individual industries, have for the present disappeared With the removal of the money market apprehension which was the only effective check remaining, speculation in stocks has broken out on a large scale, and to all appearances is likely to run on with a similar display of activity and excitement for some time further. Conservative people realize that there is a great difference between the underlying conditions of the present market and those of the great forward movement of a year ago, because security prices have measured the country's prosperity very generously now, as they had not in the autumn of 1900. But such cautious reminders are admittedly less of a guide to the immediate future of the market than the genuinely and universally optimistic temper of the speculative public.

The local traction stocks have taken a conspicuous part in the week's advance. In the case of Manhattan the specific reasons should be fully apparent to readers of these articles. The theory of the market operations is briefly that what by comparison seems a high price for the stock is in reality no more than a proper reflection of the steady increase in the company's earnings, and that the additional advantages from electrical equipment have scarcely begun to be discounted. With Metropolitan and Brooklyn Rapid Transit the rise appears to be more largely speculative in character. A large short interest had accumulated in both stocks, and this has been the lever for powerful inside pools which have had stock to sell at higher figures. The old rumor of a consolidation between the two companies has been revived to suit the purposes of the occasion, but even credulous Wall Street refuses to attach any weight to the story.

Philadelphia

Philadelphia stocks have felt to some extent the effect of the revival of speculation in the New York market. Dealings in Union Traction improved, and the shares rose two points to 29⅞—the highest figure recorded in some time. The time for the next instalment on the stock is approaching, only $17.50 of the par value, $50, having so far been paid. It is announced that this instalment will be divided into two parts, with an interval of several months between the first and second call. It is also intimated that a dividend will be paid by the company which will be equal to at least half the amount of the required payment. The rise in the shares has been largely based on this expectation. Philadelphia Traction has been sympathetically firm around 96. Trading in the Pittsburgh shares has not been conspicuous, but the common sold up to 23¾, and the preferred moved up to 64¾. A dividend of $3 has been declared on the preferred, payable to stockholders of record November 5. American Railways was bid up sharply last Thursday from 40 to 43⅜ on talk of an increase in the dividend rate, but later receded to 42. The new stock of the Railways Company General was dealt in for the first time at 6, as compared with 2½, the previous quotation on the old stock. It will be recalled that the capital issue of the company was recently cut in two and the par value advanced from $5 to $10 a share. Minor transactions of the week include 200 Consolidated Traction of New Jersey at 67½, 12 Philadelphia City Passenger at 208, 25 Germantown Passenger at 148, and 10 West Philadelphia Passenger at 258. Bonds have been strong, with small sales of Indianapolis Railway 4s at 87, Electric-Peoples Traction 4s at 97 and 97¼, and People's Passenger 4s at 106½.

Chicago

The Chicago traction market has recovered perceptibly from the rude shock it experienced when the decision of the Supreme Court compelling the taxing of franchises was announced, two weeks ago. Union Traction preferred, on light offerings, fell as low as 49½ last Friday, but the removal of the selling pressure led to an easy recovery to 51. The common has not done as well; it rallied sharply to 14½ on Monday morning, but relapsed yesterday to 13. Elevated stocks have generally ruled strong, with Northwestern securities the feature. The common went up from 39 to 40, and the preferred, on larger dealings than usual, rose from 88 to 90. This movement foreshadows the early announcement that the lease of the Evanston branch of the St. Paul Railroad has been ratified. Officials of the elevated company estimate that the new line will bring an addition of 7500 fares daily, most of which will be at the rate of 10 cents. Lake Street shares have recovered a half-point to 13, and odd lots of Metropolitan preferred have sold as high as 92. The cold weather has expanded traffic on all the elevated roads very largely, and the total is running far ahead of last year. Despite this, the surface lines declare that their business is also better than it was a year ago.

Other Traction Securities

An unusually large amount of interest has again been shown this week in the securities of the St. Louis companies. A further sharp advance in prices has accompanied heavy dealings in all the various markets where the issues are dealt in. St. Louis Transit common, which sold a week ago at 30 and three weeks ago at 25½, has risen to 31½; United Railways preferred is up from 85½ last week to 88½, and the 4 per cent bonds have advanced from 89½ to 91¼. None of the rumors which have been circulated to explain the movement is as plausible as the contention that the company's earnings, behind interest and preferred stock dividends, have long failed to receive proper recognition in market quotations. Louisville Railway common has declined to 106 on small offerings by holders who were disappointed over the decision of the Kentucky Court of Appeals, refusing a rehearing in the franchise tax matter. Scarcely any stock, however, is offered on the market, and there is no ground for complaint in the way earnings of the property are increasing. New Orleans Traction shares are lower, the common at 29¼ and the preferred at 105, but the dealings in them are trifling. Syracuse common is strong at 25 bid; with nothing offered under 30. Massachusetts Electric common, after selling freely around 37 up to the end of last week, has fallen to 36½, and the preferred is down a fraction to 94 on scattered sales. Odd lots of Boston Elevated have changed hands at 167. The new stock of the Lake Shore Electric Railway which, as mentioned last week, comprises four of the principal Everett interurban lines, has just been listed on the Cleveland Stock Exchange to the extent of $1,500,000 preferred and $4,500,000 common. The tractions in Cleveland were very quiet last week.

Stock Quotations

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

	1901 Closing Bid Nov. 5	Nov. 12
American Railways Co.	39½	42
Boston Elevated	167	165½
Brooklyn R. T.	63	68¼
Chicago City	195	190
Chicago Union Tr. (common)	13¼	12¾
Chicago Union Tr. (preferred)	50½	50
Cleveland City	..	111
Cleveland Electric	84¾	86
Columbus (common)	44	44
Columbus (preferred)	100	100
Consolidated Traction of N. J.	67	65
Consolidated Traction of N. J. 5s	109¾	109
Consolidated Traction of Pittsburgh (common)	23⅛	..
Detroit United	73	75
Indianapolis Street Railway	44	42
Lake Street Elevated	12½	12⅝
Manhattan Ry.	123¾	128⅛
Massachusetts Elec. Cos. (common)	37¼	36¼
Massachusetts Elec. Cos. (preferred)	94	92½
Metropolitan Elevated, Chicago (common)	39	39
Metropolitan Elevated, Chicago	90	91¼
Metropolitan Street	154⅛	166¼
Nassau Electric 4s	97½	97½
New Orleans (common)	30½	29¼
New Orleans (preferred)	106	105
North American	95	96
Northern Ohio Traction (common)	38	..
Northern Ohio Traction (preferred)	88	..
North Jersey	22½	22½
Northwestern Elevated, Chicago (common)	39	39
Northwestern Elevated, Chicago (preferred)	85	89
Rochester (common)	32	32
St. Louis Transit Co. (common)	30	30⅛
South Side Elevated (Chicago)	108	108
Syracuse (common)	25	25
Syracuse (preferred)	63	63
Third Ave.	118	120
Twin City, Minneapolis (common)	99	102
United Railways, St. Louis (preferred)	85½	87⅛
United Railways, St. Louis, 4s	89⅝	91
Union Traction (Philadelphia)	27¾	29⅝
United Traction (Providence)	108½	108½

Iron and Steel

The same phenomenal strength which has been noted for some time in the whole iron and steel market has kept up unremittingly this week. In face of the largest production ever recorded, there is almost a serious scarcity of steel billets, while so enormous is the demand upon the pig-iron furnaces that stocks on hand continue to decline despite the working of the plants to their utmost capacity. Prices could be easily advanced in circumstances like these, but the leading interests in the trade are averse to taking any step which will in the least endanger any check to consumption. Evidently the business is proving sufficiently profitable at the current price level. Bessemer pig is quoted unchanged at $16, steel billets at $27, and steel rails at $28.

Metals

Quotations in the metal market are as follows: Copper, 17 cents; tin, 25½ cents; lead, 4⅜ cents; spelter, 4.30 cents.

WILMINGTON, DEL.—It is reported that Harry A. Richardson, of Dover, and Willard Saulsbury have purchased the Wilmington & Newcastle Electric Railway and the Newcastle & Delaware City Railway, and that they will be operated by the United Railway & Power Company, which was recently chartered with a capital stock of $5,000,000, and of which Mr. Richardson has been elected president.

WASHINGTON, D. C.—Judge Goff, of the United States Circuit Court, has entered a decree of foreclosure against the Washington Traction & Electric Company, under the mortgage of 1899. The decree was entered at Norfolk, Va., under date of Nov. 7.

PANA, ILL.—Charles H. Bradley, of Chicago, has been appointed receiver for the Pana Electric Light & Street Railway Company, in the foreclosure proceedings of Robert Johns, of Pana, who sold the plant to S. K. Gregg, F. A. Kuchnel, and others of Chicago, for $75,000. Mr. Bradley will, it is said, conduct the plant for the next fifteen months, when the case, which has been in the courts for two years, will probably be decided.

EAST ST. LOUIS, ILL.—The Winstanley Park Railroad, which has a franchise to build an electric railway covering a number of streets in Winstanley, a suburb of East St. Louis, will increase its capital stock from $10,000 to $300,000. The directors of the company are George J. Kobusch, J. M. Bramlette, Edward Ahend, Jr., John A. Day and C. M. Clark.

ELGIN, ILL.—W. E. Hutton & Company, of New York, now offer at 101 and interest $1,700,000 5 per cent bonds of the Elgin, Aurora & Southern Traction Company, dated June 1, 1901. The bonds mature June 1, 1916, and the interest is payable at the American Trust & Savings Bank, of Chicago, trustee, or the First National Bank, of New York. The total authorized bond issue is $2,000,000, of which $300,000 are reserved against underlying bonds. The bonds are a lien upon the company's property in Elgin and Aurora, and upon the interurban line connecting Carpentersville, Dundee, Elgin, St. Charles, Geneva, Batavia, Aurora and Yorkville.

GEORGETOWN, KY.—It is said that the Georgetown & Lexington Traction Company, which is now constructing an electric railway from Georgetown to Lexington, has arranged to issue at once $250,000 in bonds for the completion of the road. The Tennis Construction Company, of Philadelphia, has the contract for building the line. The road has been graded its entire length.

DETROIT, MICH.—The regular quarterly dividend of 1 per cent on the capital stock of the Detroit United Railways Company has been declared payable December 2, 1901.

ST. LOUIS, MO.—The announcement of the consolidation of the Transit and Suburban lines is expected to be made within the near future. There has been unusual activity lately in Transit Company stock. Common jumped from 25 to 30, and preferred from 81 to 86. The bonds that have been selling at 89 rose to 90. This is thought by some brokers to be because of the recent published statement of the Transit Company for the quarter ending Oct. 1, which showed a profit of 2 per cent over all expenses. Other brokers say that it indicates the absorption of the Suburban. There are rumors that a portion of the transit companies' floating debt, $4,000,000, has recently been paid.

ASBURY PARK, N. J.—The Atlantic Coast Electric Railroad Company has defaulted on the payment of the $20,000 interest due on Nov. 1 on its $800,000 outstanding 5 per cent first mortgage bonds. The default, it is said, is part of a plan for reorganizing the finances of the company. The Atlantic Coast Electric Railroad is a combination of electric lines along the New Jersey Coast, extending from Asbury Park through Long Branch to Pleasure Bay. The company owns also the entire stock of the Atlantic Coast Electric Light Company, which supplies the electric lights of Asbury Park and a number of neighboring towns. The company has $1,500,000 capital stock, and in addition to the first mortgage bonds on which default has been made, has outstanding $500,000 general mortgage 5 per cent bonds. Its net earnings for the year ended Sept. 30, 1900, were $138,918. The president is William Evarts Benjamin, and among the directors at a recent date were H. H. Rogers, Daniel O'Day and Col. B. M. Harvey, who was once president of the company.

BUFFALO, N. Y.—The reports of the several lines of railway at Buffalo and Niagara Falls and vicinity, controlled by the International Traction Company for the three months ended Sept. 30 last, the time when the Pan-American Exposition was at its most prosperous period, show in the aggregate a large increase in gross and net earnings and in net income as compared with the income of the corresponding quarter of 1900. The gross earnings increased from $761,197 to $1,802,277, an increase of $1,041,079; the net earnings from $412,431 to $1,041,579, an increase of $629,128; and the surplus from $200,932 to $808,648, an increase of $607,716.

ALBANY, N. Y.—The Albany & Hudson Railway & Power Company reports for the quarter ended Sept. 30, 1901, gross earnings, $59,588; net earnings, $17,677; other income, $5,007; fixed charges, $32,557; deficit, $9,872; cash on hand, $8,984; profit and loss deficiency, $136,775. The heavy operating expenses were due in a measure to the settlement of claims for the fatal collision on the road last may. The road is to be double-tracked without delay.

ROCHESTER, N. Y.—The Roehester Railway Company reports earnings as follows:

Quarter ending Sept. 30	1901	1900
Gross receipts	$239,073	$244,189
Operating expenses	143,490	144,078
Earnings from operation	$115,583	$100,111
Receipts from other sources	5,016	1,630
Gross Income	$120,599	$101,741
Fixed charges	74,861	72,376
Net earnings	$45,738	$29,365

SYRACUSE, N. Y.—The Syracuse Rapid Transit Railway Company reports earnings as follows:

Quarter ending Sept. 30	1901	1900
Gross receipts	$166,795	$143,905
Operating expenses	91,525	80,492
Earnings from operation	$75,270	$63,413
Receipts from other sources	1,572	1,522
Gross income	$76,842	$64,935
Fixed charges	57,021	55,859
Net earnings	$19,821	$9,076

WATERFORD, N. Y.—The Hudson Valley Railroad Company has filed for record a mortgage for $4,000,000, given in favor of the Merchants' Trust Company, of New York. The mortgage is upon all the company's property, embracing the Stillwater & Mechanicsville Street Railway, Greenwich & Schuylerville Electric Railway, Saratoga Traction Company, Glens Falls, Sandy Hill & Fort Edward Street Railroad Company, Warren County Railway and the Saratoga Northern Railway. The mortgage also covers the extension of the company's railroad now building between Mechanicsville and Ballston. The rate of interest is 5 per cent, payable semi-annually on the first days of July and January of each year. The date of maturity is 1951.

NEW YORK, N. Y.—The members of the Third Avenue Railroad syndicate, which financed the purchase of that road in the interest of the Metropolitan Street Railway Company, have received formal notice of its dissolution.

BROOKLYN, N. Y.—The Brooklyn Rapid Transit Company reports earnings as follows:

September	1901	1900
Gross receipts	$1,090,229	$1,019,465
Expenses, including taxes	740,546	628,696
Net receipts	$349,683	$390,769
Three months ending Sept. 30		
Gross receipts	$3,433,600	$3,226,458
Expenses, including taxes	2,259,123	1,961,543
Net receipts	$1,174,477	$1,264,915

CINCINNATI, OHIO.—A meeting of the stockholders of the Cincinnati, Georgetown & Portsmouth Railroad Company has been called for Dec. 3 to vote an increase in the capital stock to $1,500,000 and to consider the issuing of $1,000,000 5 per cent bonds. The intention of the company to change the motive power of the road from steam to electricity was recently announced.

CLEVELAND, OHIO.—On Nov. 4 the Pomeroy-Mandelbaum syndicate secured the final transfer of the property of the Ohio Central Traction Company, which deal was practically completed several weeks ago. The road extends from Bucyrus to Galion, and it will be operated in connection with the Mansfield, Crestline & Galion Railway, cars being operated through from Bucyrus to Mansfield. Six large sized interurban cars are being built for the line by the St. Louis Car Company. Each car will be equipped with four 50-hp motors and will be geared for 50 miles an hour, so that the schedule between Bucyrus and Mansfield will be about one hour and fifteen minutes. The road just acquired will be greatly improved.

CLEVELAND, OHIO.—One of the closing acts in the consolidation of the Toledo, Fremont & Norwalk Railway, Sandusky, Norwalk & Southern Railway, Sandusky & Interurban Railway and Lorain & Cleveland Railway into the Lake Shore Electric Railway Company was the filing on Tuesday, Nov. 5, by the latter company, of a trust mortgage for $6,000,000, covering the properties of the four lines mentioned. The mortgage was given to the Western Reserve Trust Company, and it covers an issue of thirty-year 5 per cent bonds. The proceeds are to be used to develop the plans of the big company.

COLUMBUS, OHIO.—There is a report current in Columbus that the Everett-Moore syndicate has made overtures to the Columbus Railway Company with a view to absorbing the Columbus city lines. The story is denied by officials of the Columbus Company.

CINCINNATI, OHIO.—The capital stock of the Cincinnati Suburban Traction Company has been increased from $50,000 to $600,000. The road is being constructed over the Ohio Turnpike to Batavia, paralleling the Cincinnati, Georgetown & Portsmouth Railroad, which is about to be equipped with electricity. A branch will be built from Amelia to Bethel.

CLEVELAND, OHIO.—The stock of the Lake Shore Electric Railway Company was listed on the local exchange for the first time Nov. 13. There is $2,500,000 common and $4,500,000 preferred.

CLEVELAND, OHIO.—The passenger earnings of the Detroit United Railways for the month of October were $260,099, a gain of $33,524 over the same month last year. The receipts were divided between city and suburban lines as follows: city, $227,698, a gain of $25,402; suburban, $32,400, a gain of $8,122.

CLEVELAND, OHIO.—The passenger receipts of the Toledo Railways & Light Company for the month of October were $79,605, a gain of $7,543 over the same month last year.

CLEVELAND, OHIO.—The receipts of the Detroit & Port Huron Shore Line for the month of October were $25,353, a gain of $710 over the same month last year.

CLEVELAND, OHIO.—The passenger earnings of the Northern Ohio Traction Company for the month of October were $42,707, a gain of $4,972.

PHILADELPHIA, PA.—It is reported that the Union Traction Company will, in the near future, probably next month, call an assessment of $5 a share on its stock, payable after the first of the year in two equal instalments, and that a dividend of $2.50 will be declared. Such action was predicted when the last annual report of the company was issued in September, showing that $3,111,402 of earnings had been expended for capital payments. An assessment of $5 a share would yield $3,000,000.

NASHVILLE, TENN.—It is improbable that a plan for the reorganization of the Nashville Railway Company will be adopted before Dec. 1.

EL PASO, TEX.—Newspaper reports say that C. R. Bueheit, T. N. Barnsdall and E. W. Davis, of Pittsburgh, Pa., have purchased all the traction and electric lighting interest of El Paso, Tex., and Juarez, Mex., and are forming the El Paso Electric Company, capitalized at $1,250,000, under a New Jersey charter, to operate the property. The purchase includes the only two toll bridges across the Rio Grande, and connecting El Paso, with 25,000 people, and Juarez, with 8000. The purchase price of the properties secured is said to have been $621,000.

EVERETT, WASH.—The Everett Railway & Electric Company has given a $1,000,000 mortgage to the Manhattan Trust Company, New York, securing bonds for the same amount, half of which will be issued in April and the balance to be held in reserve. The company, as has already been noted, is reconstructing practically the entire railway and lighting systems of the city.

BOSTON, MASS.—The annual meeting of the stockholders of the Massachusetts Electric Companies is called for Nov. 20, to act upon the annual report, elect five trustees for a three years' term, amend by-laws, changing date of annual meeting from third Wednesday in November to third Wednesday in December, to authorize a change in the form of certificate so that hereafter the same may be signed by the treasurer instead of president and secretary, and to see if stockholders will authorize the trustees to sell or otherwise dispose of certain shares of stock held by the trustees. In the call for the meeting Secretary Burdett states that when the date of the annual meeting was changed, a year ago, it was expected that there would be no difficulty in preparing the annual report in time to have it mailed to shareholders with the notice of the meeting. It has proved, however, to be impracticable to do so, and for that reason the trustees have decided to recommend a further change in the date of the annual meeting. It is expected that the second annual report of the trustees will be mailed to shareholders on or before Dec. 10. No quorum will be expected at the meeting of Nov. 20, and no business will be proposed by the trustees, except to take an adjournment to 12 o'clock, Dec. 18, on which date business will be considered.

CLEVELAND, OHIO.—The passenger receipts of the Cleveland Electric Railway Company for the month of October were $197,494, a gain of $11,846, or $382 per day, over the same period last year. The gain is considerably smaller than has been the rule for other months of this year, in view of the fact that October, 1900, included "Home Week," which was the heaviest week on record up to that time.

JERSEY CITY, N. J.—At the annual meeting of the Jersey City, Hoboken & Paterson Street Railway, held at Jersey City Nov. 4, President David Young reported that the surplus for the year was $54,288. Last year the surplus was $112,189. The decrease, it is said, is due to the franchise tax levied this year, and to other heavy expenses.

SAN FRANCISCO, CAL.—The negotiations for the sale of the Market Street Railway, of San Francisco, to a Baltimore syndicate, represented by G. R. Webb, president of the United Railways & Electric Company, of Baltimore, has been closed, and the purchasers will take possession of the property on Feb. 28, 1902. The purchasing syndicate is the same that early in the year purchased the San Francisco & San Mateo Electric Railway, and the Sutter Street Railway, of San Francisco, and the purchase of the Market Street Railway, of course, gives it control of the street railway lines of San Francisco. The negotiations for the sale had been in progress for some time, but the position taken by the large stockholders of the company prevent the early consummation of the deal. The large holders refused the first offer of the syndicate, which was simply to purchase a majority of the stock, and demanded that the purchasers take all of the stock that was offered. There is also said to have been a difference as to the purchase price. The owners were firm in their demands, and it is said that the purchasers finally agreed to buy the stock at $100 a share, and adhere to the conditions of the owners. The purchasers have filed a bond of $250,000 to insure the successful completion of the deal. It is known that Mr. Webb, who negotiated the sale, represented Alexander Brown & Sons, of Baltimore, who completed the St. Louis, Baltimore and Pittsburgh consolidations. The plan of the syndicate, it is said, is to spend $4,000,000 in improvements. The syndicate now controls 146 miles of electric line, 64 miles of cable, 9.5 miles of horse, and 12 miles of steam. The gage of the various lines differs materially.

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.

COMPANY.	Period	Total Gross Earnings	Operating Expenses	Net Earnings	Deductions From Income	Net Income, Amount Available for Dividends
AKRON, O.						
Northern Ohio Tr. Co.	1 m., Sept. '01	59,242	31,396	27,846	------	------
	1 " " '00	45,957	28,206	17,751	------	------
	3 " " '01	193,833	98,904	94,929	------	------
	3 " " '00	158,379	94,977	63,402	------	------
	9 " " '01	462,800	263,361	199,439	98,973	100,466
	9 " " '00	387,972	241,782	146,190	109,786	36,404
ALBANY, N. Y.						
United Traction Co.	1 m., Oct. '01	120,823	84,091	36,733	19,901	16,832
	1 " " '00	117,304	82,489	34,815	19,901	14,914
	4 " " '01	505,041	323,061	181,980	79,604	102,376
	4 " " '00	483,918	319,764	164,154	80,028	84,126
BINGHAMTON, N. Y.						
Binghamton St. Ry. Co.	1 m., Oct. '01	16,884	9,294	7,590	------	------
	1 " " '00	14,792	8,218	6,574	------	------
	4 " " '01	80,044	40,318	39,726	------	------
	4 " " '00	69,973	35,660	34,313	------	------
BROOKLYN, N. Y.						
Brooklyn R. T. Co.	1 m., Sept. '01	1,030,229	* 740,546	349,683	------	------
	1 " " '00	1,019,465	* 628,696	390,769	------	------
	3 " " '01	3,433,601	*2259123	1,174,477	------	------
	3 " " '00	3,226,458	*1961543	1,264,916	------	------
	12 " June '01	12,135,559	*7216008	4,919,551	4,341,748	577,803
	12 " " '00	11,768,550	*7106373	4,662,177	4,135,405	526,772
BUFFALO, N. Y.						
International Tr. Co.	1 m., Sept. '01	660,791	268,803	391,988	101,216	290,772
	1 " " '00	256,322	110,267	145,055	80,598	64,457
	3 " " '01	1,876,552	760,697	1,115,855	307,206	808,649
	3 " " '00	791,470	348,745	442,725	241,793	200,933
CHICAGO, ILL.						
Chicago & Milwaukee Elec. Ry. Co.	1 m., Aug. '01	24,042	7,479	16,563	------	------
	1 " " '00	20,702	6,058	14,644	------	------
	8 " " '01	112,962	49,571	63,391	------	------
	8 " " '00	92,267	36,795	55,472	------	------
Northwestern Elev.	12 m. June '01	978,766	322,645	656,121	400,693	255,428
	7 " " '00	525,023	180,452	344,571	221,553	123,018
Union Traction	12 m. June '01	8,158,809	3,942,194	4,216,615	4,058,040	158,575
	12 " " '00	8,345,748	3,761,797	4,583,951	3,979,876	604,075
CLEVELAND, O.						
Cleveland & Chagrin Falls	1 m., Sept. '01	5,350	2,212	3,137	1,405	1,732
	1 " " '00	4,790	3,047	1,743	201	1,542
	9 " " '01	34,255	23,144	11,111	9,875	1,266
	9 " " '00	36,800	24,752	12,048	9,902	2,146
Cleveland & Eastern	1 m., Sept. '01	10,805	5,555	5,250	3,717	------
	1 " " '00	7,842	4,650	3,192	3,404	------
	6 " " '01	66,398	38,509	27,898	23,280	------
	6 " " '00	44,930	26,413	18,518	24,446	------
Cleveland El. Ry. Co.	1 m., Sept. '01	231,552	127,444	104,109	20,350	83,759
	1 " " '00	176,108	93,014	83,094	21,221	61,874
	9 " " '01	1,765,634	942,983	762,651	179,634	583,016
	9 " " '00	1,506,701	822,454	684,248	190,385	493,863
Cleveland, Elyria & Western	1 m., Oct. '01	22,736	12,611	10,124	4,478	5,647
	1 " " '00	16,814	8,978	7,834	3,228	4,606
	10 " " '01	208,728	113,398	95,330	44,775	50,555
	10 " " '00	147,861	81,200	66,660	32,275	34,385
Cleveland, Painesville & Eastern	1 m., Sept. '01	18,822	9,649	9,174	6,042	3,132
	1 " " '00	14,495	5,169	9,325	6,042	3,284
	9 " " '01	124,184	63,243	60,941	54,375	6,566
	9 " " '00	106,187	49,979	56,207	54,375	1,833
CORTLAND, N. Y.						
Cortland & Homer Tr. Co.	12 m. June '01	31,624	19,857	11,767	7,237	4,470
	12 " " '00	28,925	16,927	11,998	22,129	df 10,131
DENVER, COL.						
Denver City Tramway Co.	1 m., Sept. '01	133,633	70,201	63,432	32,579	30,853
	1 " " '00	116,568	60,808	55,760	32,016	23,744
	9 " " '01	1,114,554	608,609	505,945	285,742	220,203
	9 " " '00	963,587	541,029	422,558	279,501	143,057
DETROIT, MICH.						
Detroit United Ry.	1 m., Sept. '01	282,330	153,288	129,042	------	------
	1 " " '00	240,949	136,730	104,219	------	------
	9 " " '01	2,125,841	1,141,175	984,666	------	------
	9 " " '00	1,884,736	1,051,289	833,447	------	------
Rapid Ry.	1 m., Sept. '01	35,687	21,576	14,111	-----	------
	3 " " '01	125,948	63,156	62,792	------	------
DULUTH, MINN.						
Duluth-Superior Tr.	1 m, Sept. '01	39,183	19,941	19,241	9,190	10,051
	9 " " '01	335,268	------	153,716	------	------
ELGIN, ILL.						
Elgin, Aurora & Southern Tr.	1 m., Oct. '01	28,578	16,964	11,614	------	------
	1 " " '00	25,270	16,984	8,285	------	------
	9 " " '01	275,504	152,904	122,600	75,000	47,600
	9 " " '00	234,125	149,851	84,274	67,500	16,774
HAMILTON, O.						
Southern Ohio Tr. Co.	1 m., Oct. '01	31,839	13,862	17,977	------	------
	1 " " '00	28,431	14,296	14,136	------	------
	9 " Sept. '01	252,892	138,324	114,568	67,500	47,068
	9 " " '00	218,846	112,023	106,824	67,500	39,324
LONDON, ONT.						
London St. Ry. Co.	1 m., Oct. '01	10,105	6,356	3,749	1,957	1,792
	1 " " '00	9,257	7,203	2,054	1,691	364
	10 " " '01	116,814	72,274	44,539	19,800	24,739
	10 " " '00	97,641	69,642	27,999	18,294	9,705
MILWAUKEE, WIS.						
Milwaukee El. Ry. & Lt.	1 m., Oct. '01	206,812	99,249	107,563	63,409	44,154
	1 " " '00	189,068	96,023	93,044	69,296	23,748
	10 " " '01	1,992,060	977,589	1,014,471	624,810	389,661
	10 " " '00	1,820,850	933,250	887,600	691,962	195,638
MINNEAPOLIS, MINN.						
Twin City R. T. Co.	1 m., Sept. '01	308,393	123,131	185,262	57,874	127,288
	1 " " '00	271,652	106,559	165,092	50,901	114,190
	9 " " '01	2,840,165	1,068,846	1,271,318	503,273	768,045
	9 " " '00	2,102,029	981,006	1,121,023	474,801	646,222
MONTREAL, CAN.						
Montreal St. Ry. Co.	1 m., Sept. '01	182 584	------	------	------	------
	1 " " '00	161,526	------	------	------	------
	12 " " '01	1,900,679	1,251,428	649,251	------	------
	12 " " '00	1,769,903	1,122,657	647,246	------	------
NEWBURGH, N. Y.						
Newburgh Electric	1 m., Aug. '01	13,615	5,699	7,916	------	------
	1 " " '00	12,780	4,932	7,848	------	------
	2 " " '01	27,003	10,767	16,236	------	------
	2 " " '00	25,769	10,182	15,587	------	------
NEW YORK CITY.						
Manhattan Ry. Co.	3 m., Sept. '01	2,284,565	1,312,130	972,434	632,350	340,084
	3 " " '00	2,081,964	1,236,711	845,253	626,925	218,328
	12 " " '01	10,455,872	5,328,649	5,127,223	2,682,132	2,444,091
	12 " " '00	9,950,735	5,195,312	4,755,423	2,688,644	2,066,779
Metropolitan St. Ry.	12 m., June '01	14,720,767	6,755,131	7,965,636	4,534,068	3,431,567
	12 " " '01	14,457,134	6,631,254	7,805,880	4,445,720	3,360,160
OLEAN, N. Y.						
Olean St. Ry. Co.	1 m., Sept. '01	4,940	2,195	2,745	1,286	
	1 " " '00	4,188	2,358	1,831	1,471	1,459
	3 " " '01	17,046	6,887	10,159	4,200	360
	3 " " '00	15,721	6,736	8.984	4.527	5,959
						4,458
PITTSBURG, PA.						
Consolidated Traction	1 m., Sept. '01	293,693	126,041	167,652	90,017	77,635
	1 " " '00	275,894	104,939	170,955	89,974	80,981
	6 " " '01	1,742,548	752,234	990,314	539,209	451,105
	6 " " '00	1,645,439	689,445	955,994	530,683	425,311
PHILADELPHIA, PA.						
American Railways	1 m., Oct. '01	82,378	------	------	------	------
	1 " " '00	67,711	------	------	------	------
	4 " " '01	345,360	------	------	------	------
	4 " " '00	312,137	------	------	------	------
Union Traction Co.	12 m., June '01	13,431,680	5,836,186	7,595,495	6,734,228	861,267
	12 " " '00	13,249,825	5,624,905	7,624,921	6,686,899	938,022
RICHMOND, VA.						
Richmond Trac. Co.	1 m., Sept. '01	20,991	15,669	5,322	3,196	2,126
	1 " " '00	20,727	10,770	9,957	3,843	6,115
	12 " " '01	218,569	139,542	79,027	38,618	40,410
	12 " " '00	203,057	108,198	94,859	37,608	57,250
ROCHESTER, N. Y.						
Rochester Ry.	1 m., Sept. '01	82,428	45,854	36,573	24,942	11,632
	1 " " '00	78,376	47,604	30,771	24,124	6,647
	3 " " '01	262,885	142,286	120,599	74,861	45,738
	3 " " '00	245,827	144,079	101,749	72,376	29,373
ST. LOUIS, MO.						
St. Louis Transit Co.	1 m., Aug. '01	509,048	------	------	------	------
	1 " " '00	505,728	------	------	------	------
	9 " " '01	3,801,409	-----	------	------	------
	9 " " '00	2,657,716	------	------	------	------
SCRANTON, PA.						
Scranton Ry. Co.	1 m., Aug. '01	63,763	33,744	30,019	------	------
	1 " " '00	57,647	29,935	27,713	------	------
	2 " " '01	127,958	65,640	62,318	------	------
	2 " " '00	116,843	61,236	55,507	------	------
SYRACUSE, N. Y.						
Syracuse R. T. Co.	1 m., Sept. '01	53,992	29,692	24,300	19,025	5,275
	1 " " '00	45,993	25,380	20,613	18,673	1,940
	3 " " '01	168,368	91,526	76,842	57,021	19,821
	3 " " '00	145,427	80,492	64,935	55,859	9,077
TOLEDO, O.						
Toledo Ry. & Lt. Co.	1 m., Sept. '01	114,667	50,512	64,155	37,813	26,342
	1 " " '00	103,434	48,351	55,083	24,271	30,812
	9 " " '01	957,584	461,507	496,077	241,730	254,347
	9 " " '00	871,258	468,239	408,019	216,238	191,781
W. NEW BRIGHTON, S. I.						
Staten Island El	3 m., Sept. '01	80,197	42,103	38,094	27,221	10,872
	3 " " '00	78,432	46,155	32,277	27,348	4,928

NEWS OF THE WEEK

CONSTRUCTION NOTES

SAN JOSE, CAL.—The Consolidated Alum Rock Park and San Jose & Santa Clara railroad companies are making preparations to convert the steam motor line from San Jose to the Park into an electric road. The companies recently petitioned the Board of Supervisors of Santa Clara County for permission to make all the changes necessary in electrifying their lines.

ROCKFORD, ILL.—The Rockford & Freeport Electric Railway Company has filed its bond with the Commissioners of Winnebago and Stephenson Counties for the completion of the line between Rockford and Freeport by 1903. The officers of the company are: R. N. Baylies, president; W. F. Woodruff, secretary; T. M. Ellis, superintendent.

EAST ST. LOUIS, ILL.—The East St. Louis Electric Street Railroad Company has presented to the City Council petitions for extensions to its lines now in operation in the city. The extensions are wanted where street car service has been wanted for several years.

NEW CASTLE, IND.—The New Castle, Cadiz, Markleville, Pendleton & Western Railroad Company has been organized to construct an electric railway from New Castle to Pendleton, a distance of 21 miles. Charles S. Hernly, of New Castle, is vice-president and general manager of the company.

NOBLESVILLE, IND.—Work on the grade for the Central Traction Company's proposed road is progressing rapidly. The contractors are pushing the work between Arcadia and Cicero and also between the latter place and Noblesville, and the force of men is being increased from time to time. The surveyors have completed their work on the extension from Atlanta to Elwood, and work on this branch, as well as the line between this city and Indianapolis, will be pushed rapidly.

EVANSVILLE, IND.—Francis B. Posey is now organizing a company to build an electric railway from Evansville to New Harmony. The road will be about 32 miles long and pass through Mt. Vernon, Howell and New Harmony.

EVANSVILLE, IND.—The Commissioners of Vanderburg County have granted the Evansville & Princeton Traction Company a franchise for the construction of an electric railway from Evansville to Princeton. The proposed road will pass through Stringtown, McCutchanville, Haubstadt, Fort Branch and Kings. The company has until 1903 to commence work. The Department of Public Works of Evansville has not yet acted on the city franchise. Fred. Van Orman is president of the company.

EVANSVILLE, IND.—The Evansville Electric Street Railway has about completed the extension of its Mary Street line. When ready for operation it will open up a large amount of new territory.

ALTOONA, IA.—The propositions to grant a franchise and levy a 3 per cent tax for the interurban railway project known as the Des Moines, Colfax & Eastern Railway Company were carried at the special election in this city Nov. 8, by a large majority. There was practically no opposition to either proposition, as nearly all the people were in favor of having the new line pass through this city.

OSKALOOSA, IA.—A large mass meeting of the citizens of this city was held the evening of Nov. 8 for the purpose of considering the proposition to construct and operate an electric railway from Oskaloosa to Buxton and from Oskaloosa to Tama. R. A. Hall and N. C. Blake, of Cedar Rapids, are the promoters of the project. They were present at the meeting, and stated their plans, which were indorsed by the citizens assembled. The line, when constructed, will be about 60 miles in length. It will reach the coal fields of Mahaska County, and will connect with the Iowa Central, the Northwestern, the Rock Island and the Burlington railroads at Oskaloosa, and with the Milwaukee and the Northwestern at Tama, and with the Rock Island again near Grinnell, Ia.

DES MOINES, IA.—The Des Moines City Railway Company is preparing to extend the Fair Ground line to Grandview Park, and from thence eastward the Interurban Company will next year extend the line east to Colfax. The Fair Ground line will be extended to North Street, thence to Summit Street and north to the northwest corner of Grandview Park. This extension is to be completed by Jan. 1, 1902, in accordance with an agreement with the City Park Commissioners, who have given the company the right of way through the north end of the park. The work of grading for this extension has been commenced, and material for the construction of the extension is being distributed along the route.

NEW ORLEANS, LA.—The Controller has sold to the Orleans Railroad Company a franchise for street railway lines over the system now operated by that company for a period of thirty-nine years, and for extensions of the line for a period of fifty years. The company agrees to give the city 4 per cent of the gross annual receipts, after deducting the payment of taxes for city and State. The reason for the sale of the franchise in two periods is because the company has still eleven years to operate on the present franchise, so that one being for thirty-nine years and the other for fifty years, both will expire simultaneously. The Orleans Railroad Company at present is operating about 11 miles of road. This, with the extensions, which embrace about 6 miles, will make 17 miles in all. Upon the expiration of the franchise the track, rolling stock, etc., is to revert to the city upon the payment by the city of a valuation to be ascertained by two disinterested persons, one appointed by the city and the other by the company. In the event of a disagreement, the third person shall be appointed by the Civil District Court to act as umpire, his decision to be final.

NEW ORLEANS, LA.—The franchise of the Orleans & Jefferson Railway Company, Ltd., has been sold to the Pontchartrain Railway Company, which will begin the construction of the line in December.

PORTLAND, MAINE.—The Portland Railroad Company has completed the extension of its lines to Saco.

BERWICK, MAINE.—The Berwick & South Berwick Street Railway Company has been incorporated, with a capital stock of $20,000, to build an electric railway from Berwick to South Berwick, York County. The directors of the company are: John F. Hill, M. M. Heath, J. W. Vickery, M. Shaw and Charles R. Hall, of Augusta.

SACO, MAINE.—The Saco Valley Electric Railroad Company has secured the franchise for the construction of its proposed road, and negotiations are now being conducted for the construction and equipment of the road. The company is anxious to have work begin early in the spring, the desire being to have the line ready for operation by July 1, 1902. The officers of the company are: E. E. Abercrombie, of Boston, president; W. J. Maybury, of Saco, vice-president; F. A. Hobart, of Boston, treasurer; A. E. Haley, of Saco, clerk. Communications should be addressed to the company at 439 Tremont Building, Boston.

UXBRIDGE, MASS.—Milford & Uxbridge Street Railway Company is rushing its line between Hopedale and Uxbridge, and has connected Wheelockville and Hopedale. The section between Calumet Village and Wheelockville is the only part between Hopedale and Uxbridge where there is no track. It is expected that the line will be ready for operation early in December.

DEERFIELD, MASS.—Articles of association have been signed for the formation of a company to build an electric railway from South Deerfield through Whately to Main Street, in Hatfield, the company to be known as the Greenfield, Deerfield & Northampton Street Railway Company. The following subscribers to the articles are to act as a board of directors until others are chosen by the corporation: James B. Bridges, of South Deerfield; Walter W. Sanderson, of Whately; W. H. Belden, of Hatfield; Benjamin E. Cook, of Northampton; John A. Taggart, of Greenfield; Edward C. Crosby, of Brattleboro. The length of the road is 7 miles and the capital stock is $20,000.

DETROIT, MICH.—The Detroit, Utica & Romeo Electric Railway is being rebuilt from the Grand Trunk crossing for a distance of about 6½ miles.

LANSING, MICH.—The Gordon Traction Company, which proposes to build an electric railway from Lansing to Battle Creek, expects to begin construction work early in the spring. The officers of the company are: R. B. Gordon, president; Albert Hertzing, vice-president; G. A. Douglas, secretary; C. W. Sellers, treasurer.

MONROE, MICH.—The Council has refused to grant a franchise for an extension of the Toledo & Monroe Railway, thereby making it impossible for the present to connect this line with the Detroit & Toledo Shore Line, which will be part of the same system. This changes the plan of the Everett-Moore syndicate of not equipping the lower section of the Detroit & Toledo line with electricity for the present, and operating the through cars by way of Monroe. As it now stands, the lower section of the Detroit & Toledo will be pushed to completion and the through cars will pass about 2 miles from Monroe, thereby saving about twenty minutes on the run between the big cities.

SAGINAW, MICH.—It is reported that the Saginaw Southern Electric Railway Company will extend its line to Owosso from Chesaning. Right of way is now being secured.

DETROIT, MICH.—The Hawks-Angus syndicate, the owners of the Lansing Street Railway and the Detroit, Ypsilanti & Ann Arbor Electric Railway, has been granted a franchise through Mason. The syndicate has taken possession of the Lansing Street Railway, and, while no extensive improvements will be made this fall, it is promised that the line will be extended to Grand Rapids early in the spring.

SUMMIT, MISS.—Citizens have begun a movement for the building of an electric railway from Summit to Magnolia. The proposed line would traverse a well-populated section of the State.

ST. LOUIS, MO.—The St. Louis & Manchester Railway Company, which was chartered two weeks ago, at a recent meeting organized and elected D. C. Taylor, of Manchester, president; Merritt Marshall, vice-president and treasurer; Dr. J. M. Berry, secretary; Thomas McGrady, superintendent. The company is capitalized at $250,000, and was organized for the purpose of constructing an electric road to Manchester, in St. Louis County. A franchise will soon be asked for.

PELHAM, N. Y.—The Subway & Suburban Construction Company has been incorporated to construct railways. The capital stock of the company is $300,000. The directors of the company are: Frank V. Ainslie, of Brooklyn; Emile Dreyfus, William F. McCoombs, Jr., Dunbar Hunt and H. D. McGowan, of New York City.

DUNKIRK, N. Y.—The avowed intention of the Dunkirk & Point Gratiot Traction Company is to extend its lines easterly to Buffalo and westerly to Westfield, and the company has recently applied for a franchise in Westfield. A ninety-nine year grant is desired and the company signifies its intention of having both the Buffalo and Westfield lines constructed during the coming year.

AMSTERDAM, N. Y.—The Amsterdam Street Railway Company has filed with the Secretary of State a certificate of the extension of its lines to Hagaman.