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A. S. Hallidie on Cable Roads.

During a recent visit to Melbourne, Australia, Mr. A. S. Hallidie of San Francisco was tendered a banquet by the promotors of the cable system of tramways in the former city. In response to a toast of his health Mr. Hallidie made the following interesting statement regarding the system of which he is the originator, and which we quote from the Melbourne Argus:

"It is now 14 years since I matured the cable system of street tramways, which you have inaugurated on such a grand scale in this beautiful city of Melbourne.

"By the courtesy of your chairman and of the engineer of the Trust I have been driven over the various streets on which you propose to build your lines. I have been over your lines already constructed, have visited your workshops where your cars are being made, have examined your machinery, and can truly say that I congratulate the Trust on the character of the roads already constructed, and the corporation operating these lines, not only on the work that has been placed in its hands, but on the evidence of great care that has been exercised in the selection of routes, the locating of engine house and workshop sites, as well as the admirable manner in which provisions have been and are being made for the building and maintenance of your rolling stock and driving machinery. When I remember that it is 12½ years since I completed the little cable road in Clay street, San Francisco, and the total lack of confidence in the enterprise, the failure to enlist capital for nearly two years, the sly fun poked at me, the hints about a "bee in my bonnet," and many other interesting but not encouraging facts that I met with at that time, and when I realise how slow it is this driving of human habits or thoughts into new channels, and the careful clinging to old ways and ideas which we feel are safe, it is not so much a matter of surprise to me today as it was a few years since that the public did not see things as I saw them.

"Suppose, instead of the cable system, you had adopted the steam motor or the horse car system, in what way would the comfort and health of the public, the pockets of the shareholders, or the property of your citizens have been affected? Let us see. If the steam motor. In order to do the carrying business in proportion to your population and to the enterprise of your people, you would require at least 100 motors, which, in order to mount your grades and run at the requisite speed, would weigh about 14 tons each, liberate millions of cubic yards of heated gas, and about 2,700,000,000 cubic yards of vapor, heated over 212 degrees, and probably deposit 40,000,000 chips of cinder in your eyes per annum (good for oculists)—*i. e.*, say one chip per passenger—and if they were run same as at Sydney, you would be £20,000 behind in your interest account, and no dividends per annum; moreover, your streets would be cut up by a worse than bad road-bed, always out of repair, your sleep would be disturbed by the shrill whistle of the motor, and by the puff of the exhaust steam, while the best service you could give the public would be from 15 to 30 minutes intervals. But I do not mean to say that the steam motors cannot be utilised as auxiliary or supplemental to a better system. In many cases they can be so used, but my experience with them is that they require a proportionately larger rate of fare in order to make them pay, and the fact that on grades there is a definite amount of dead weight needed in order to give sufficient adhesion between the wheel and the rail precludes the idea of having light motors and consequently necessitates the use of a solid and substantial permanent way, and this will apply, of course, to any kind of motor that carries its own load and depends upon its own load and force for its tractive power, whether it is latent steam, compressed air, gas, or electricity. But supposing you should have determined on the horse-tram system, what would have been the conditions of that system? In order to carry, say, 40,000,000 fares per annum (San Farncisco trams carried 50,000,000, 1885) there would be required at least 400 cars and 4,400 horses, and a proportional number of drivers, hostlers, &c. Horses do not deposit cinder and soot, and emit volumes of hot gases and vapors—which, objectionable as they are, do not lie on the streets to generate putrid and death-dealing miasmatic gases—but a horse in ordinary health, according to Dr. Kemp, who carefully investigated the subject in New York, will deposit 10½ lbs. of solid matter per day, and Dr. Liantard, head of the American Veterinary College, states that the average discharge of liquid matter per day is 4 4-10ths gallons. (This does not include what exudes from the body by perspiration.) Now what does this mean? It means that the 4,400 horses needed for the tram system of this city would deposit per day 46,200 lbs. solid matter, and 19,360 gallons liquid matter, or per annum 7,528 tons of solid matter, and 7,066,150 gallons of liquid. Besides this, there is the wear and tear on the street, which, with 30 miles of double-track tramway at ⅜ in. per annum on wooden block, would amount to 10,000 cubic feet of pulverized vegetable matter in the form of dust, and for which the municipalities would have to pay in repairs, and the citizens in doctors' bills. Then, again, in the matter of service to the public. More than an average speed of three and a half miles per hour cannot be depended on with horse trams; and at times the epizootic comes along, when the unfortunate horses have to be put in the stable, and the business of the tramway suspended. Now as to the cable system. I suppose I only recapitulate that which you have already considered, and which has been presented to you before, but if your patience will indulge me, I will lay the facts before you to be considered from the various standpoints of trustee, stockholder, and user, and briefly refer to what is being done elsewhere. Reduced to its simplest elements, the cable system is based on the plain proposition of hauling a car or carriage over a tramway by means of a rope, actuated by a stationary steam engine or other motor, the most economical and simplest form of traction known. Simple as this proposition is, until the Clay street Hill cable tramway was built in 1873, in the city of San Francisco, the principle had never been applied to street traffic; nor did the requirements of such traffic, and the varying conditions under which it actually existed, receive, up to that time, the attention of any one having a practical knowledge of the same; and I must admit that the difficulty was not to convince myself of its practicability, as it was to persuade others, so that the practical test could be made—a test that needed considerable money to make the experiment, and some faith on the part of those inexperienced in the matter. Both the money and faith were found, after considerable delay, and three gentlemen joined me

in the construction of the Clay-street line, which we constructed at an outlay of £20,000, and made the first trip on the 1st day of August, 1873. That line was then three-fifths of a mile long. It was three years and a half before the next line was built, and although the system has been slow to introduce itself, it is advancing surely. Already there are 110 miles of track operated by cable, in ten different cities, and about 300 miles more are in course of construction. Many lines have been converted from the horse to the cable system. The Sutter-street line in San Francisco, that did not pay as a horse tram, has been made to pay very largely by the cable system, and the Market street system of San Francisco as well as the Chicago City system—comprising about 40 miles of track—which were formerly paying horse lines, but which did not meet the demand upon it, by their conversion to the cable system have increased their dividends very largely, and more than doubled their business. The shares of these companies have generally trebled in value, on which the dividends are usually 6 per cent. For instance, Sutter street, cost £5, sells at £20; Geary street, £7 8s. 6d., sells at £20 12s., &c. What has been the effect on property? I can give you the effect it has had on property in the city of San Francisco, which would be a fair comparison with Melbourne, as the two cities are about equal in extent and population, and are backed by an equal population in the two states, *i. e.*, California and Victoria. The assessor of the city of San Francisco, under seal, and attested by the mayor, makes the following statement, and I beg to submit for your inspection a photographed copy of the document:—

Name of Company.	Value of Lands Bordering the Route one year Previous to construction.	Value of Lands for Year 1884, Showing Increase in value.	Percentage of Increase of value on Said Lands
	Dol.	Dol.	
Clay St. Hill*....	775,749	1,009,365	40 42-100ths
Sutter St†.....	1,189,990	1,410,125	18 49-100ths
California St*....	1,707,405	2,979,736	23 82-100ths
Geary St.*.....	1,431,430	1,548,615	8 18 100ths
Presidio and Ferries*	519,880	624,065	20 03-100ths
Market St†.....	23,309,495	26,801,255	14 98-100ths

*Always Cable. †Formerly Horse.

Then follows a table showing a remarkable depreciation in the value of the lands bordering the horse lines, which, taken in conjunction with the foregoing, makes the showing more favorable to the cable system:—

Name of Company.	Value of Lands, 1879.	Value of Lands, 1884.	Per Cent of Depreciation.
	Dol.	Dol.	
Omnibus...	16,147,270	12,125,755	24 9-10ths
North Beach and Mission	9,530,200	7,265,250	23 8-10ths

The year 1879, the assessor states, was least unfavorable to the horse car system. The inauguration of the cable system in San Francisco had the effect of attracting back to that city a large number of residents who had moved to the adjacent towns of Oakland, Alameda, and San Rafael, increased facilities and more rapid transit enabling them to live nearer their places of business. Why is it that the cable system is so popular with the public? It is more rapid in its transit, it is more convenient to get on and off the cars, its intervals of departures are nearer, it is comparatively noiseless, the cars, are cleaner and more roomy, there is no anxiety about the horses, and the better nature is not shocked by overtaxing them, there are no horses to deposit filth in the street, there are no horses to pulverise the street and create dust, the sanitary condition of the city is better under the cable system, the cars are more under control, and can be stopped quicker, the streets are better paved under the cable system, there is better discipline among the employees, and better service to the public. It is fortunate that the projectors of the cable trams in this city were men of perception and observation, and have avoided the agony of experiment which other cities have gone through. When I was in Paris a few years ago, talking with one of the directors of the Compagnie Generale des Omnibus, he told me that they had experimented on thirteen different methods of dispensing with horses, that electricity was the last and most expensive experiment, and that after all they had returned to horses, and determined to make no further experiments. Here was a case of complete discouragement. Just before I left San Francisco I received the report of the Board of Trade of Birmingham, and the carefully written report of Sir Frederick Bramwell. The city of Birmingham, acting on those reports, has determined to adopt the cable system; and Mr. Holmes, president of the Chicago City cable trams, states that he has now operating twenty-six miles of single track cable line, that they carried 2,610,000 more passengers in 1885 over 1884, that the increase in value of property affected by the cable lines has been 50% since these lines were built; the cable cars ran 5,228,000 miles and the rope 60,000 miles on the main line. In the southern part of the state of California we have a little town of 40,000 inhabitants—Los Angeles—which has two cable lines each 1½ miles long in successful operation, another line in contemplation, and the city is lighted entirely by electricity; eighteen tall masts 150′ to 200′ high, each supporting the electric lights, which shed their brightness everywhere throughout the city. The amount of business the cable system is capable of doing is far beyond that of any other. It is exceedingly elastic. While the public convenience is best met by running often, in emergencies an extra car or two can be attached to the same grip-car. In Chicago, where the streets are a dead level, they attach two cars to the grip-car, and have carried 600 passengers in one train. In San Francisco the practice is to run under short headway, say one minute and a half or two minutes intervals, or sometimes less, during the busy hours. In that city, with a population of 300,000, nearly 50,000,000 fares were carried in 1885, or about 160 times the population. I think more people ride in Melbourne than in San Francisco in proportion to the population. In starting a new system as you are doing now in Melbourne, I have no doubt you have experienced some difficulties, as you have had to work raw materials, and break them in to managing machinery, the rope, and especially the grips. This has been the experience elsewhere. Very much, however, depends on superintendents, who should have direct charge of each line, and be responsible to your general manager for the condition of the machinery, rope, grips and cars, and the general efficiency of the working of his line. Among your superintendents there naturally will be a feeling of emulation that will tend to keep up this efficiency. The construction of these cable lines will add largely to the rateable or taxable value of property, and the municipalities could well afford to let these cable lines go free of taxation. It is an enterprise of considerable magnitude, and should receive the most ample support from the public. When completed it will attract the attention of the civilised world wherever tramways are in use, and where there is so much anxiety to find some substitute for the existing methods. When I look back at the modest beginning of the cable system in the remote city of San Francisco, and see to-day how it is spreading to the important cities of the globe, I feel a pardonable pride in its success—a pride I am sure you will share with me; and the pleasure of that pride is enhanced when I look around, and in this most beautiful city of Melbourne—the pride and glory of the South Pacific, the youngest giant of the Anglo-Saxon race—find that the cable tramway is one of the many excellent fixed institutions of this city."

Rasping and Greasing Horses' Hoofs.

The horse is one of the most superbly perfect of Nature's works, viewed physically; and he occupies besides an exalted position among animals as to his intelligent moral qualities. It is therefore most painful to see how, under the handling of intelligent (?) man, he is maltreated and even abused. He submits his neck to the yoke uncomplainingly; he accepts the iron-plating of his feet, and he allows the galling check upon the movements of his head, and yet gives man his best service even to the death. The ignorant smith has his views as to what should be the shape of his feet; so he cuts and rasps, and forms them to suit himself. He has an idea that the hoof is made on purpose for him to rasp and shoe, and exercise all the tools of his trade upon. So he makes a shoe and fits the hoof to it; he removes the natural polished exterior, which by its tough elasticity defends the tender parts from injury, is nearly impervious to water, and permits a little evaporation of internal moisture, by which it is kept normally pliable and vitalized to the very surface. He rounds and smooths off the new surface; leaves it in a condition to allow the moisture of the hoof to pass off rapidly, and the hoof to dry and crack; and thus he recommends the application of tar and

grease and lamp-black, as if he were trying to render an old boot pliable and presentable. The greasing may be well enough—better than nothing—after the mischief is done. But why do sensible horse-owners allow the evil which their peremptory orders, if not their mere remonstrances, would prevent?—Ex.

Timber Track vs. Metallic Way.

Editor Street Railway Journal:—

In the discussions between myself and Mr. Craig on the above subject, I quoted very high authority on railroad construction both foreign and native, to substantiate my humble opinion, that a railway built solely of metal, was more permanent in character, as cheap in construction, cheaper in maintenance, and smoother riding than one built of timber.

In further corroboration of my claims, Mr. Wright, another authority on street railway construction, says:—"A girder rail is better so far as track is concerned in *all cases*, because of the wretched fastenings (adopted for timber system) and consequent vibrations. *Permanency* is what all railways desire in their track construction. Besides the inconvenience to the public in track renewals, the loss to the company is great; $500 per diem does not cover the decrease in receipts upon many a line from traffic interruptions."

In May, 1866, I received a communication from Mr. McDermott, an experienced railway contractor of thirty years, now superintendent of city work, who states:—"While I admired your metal system of track laying last winter, I had serious doubts as to the longitudinal cast iron stringers standing the frosts of winter and the thaws of spring; but since I have closely examined the present good condition of the track, which was laid under such adverse circumstances, and have seen the rapidity and accuracy you laid track this spring, I can only say to you what I have said to others who have asked my opinion, that were I laying a track to own, I would pay twice the amount for your metallic track as have the timber track for nothing."

D. K. Clark, in writing on the metallic system, says:—"It has been adopted for all railways in Monte Video, and also used at Buenos Ayres, Salto, &c., &c.

"The boxes (stringers) are filled with coarse sand, and placed in the ground. After being in Buenos Ayres upwards of ten years, has stood well and given great satisfaction. It is an admirable system."

Our system has been likened to the above, inasmuch as it is composed solely of metal. The difference of construction is:—Our track is built *without* the aid of rivets, bolts, nuts or fish plates, while the other uses some if not all of these to arrive at the same result.

If a system requiring bolts, nuts, &c., can give such satisfaction as to merit the title "admirable construction," surely a system using none of these, and yet arriving at the same result, must be admirable also.

I thank Mr. Craig for acknowledging some "commendable points in all patent tracks;" that is one concession; he may also in the near future concede that *metal* is more durable and serviceable than timber for track foundation, and he may also concede that *any* system, dispensing with timber, spikes, bolts and fish plates, must be more economical in maintenance than a system using the same.

Mr. Craig, after twenty-five years, must have experienced the fact, that timber rots and loses its tenacity to hold to the spike; that spikes work upward and are driven back by car wheels, until the heads are either broken or worn off; that joints get low and loose from defective fastenings, thus making travel painful to passengers and expensive repairs to track, horses and rolling stock.

He also knows, that the renewal of such a system is more labor and expense than the first construction, the tearing up of streets, withdrawing old spikes from rotten timber, and carting away the debris, &c., &c. It is not only very expensive to the railway company, but a great annoyance and inconvenience to the people.

If the metal system had to be renewed as often as the timber system, there is still this in its favor—the iron stringers are worth half their first cost, while the timber is worthless, beside the expense of removal.

I have given the opinions of eminent men on this subject, permit me to express my opinion thusly.

It is a poorly constructed house whose foundation, (timber stringers and crossties) and surroundings, (paving) have to be torn up every time the roof leaks, (worn out rails).

Mr. Craig justly remarks:—"In adopting a style of track, a railway company takes into consideration the various items of first expenditure, cost of maintenance, convenience of making connections, curves, switches, turnouts &c., &c."

All these important points have been carefully considered, and I have practically demonstrated

1st. That we can build a track composed solely of metal for the same price, (using same weight of rail) as timber stringer system described by him.

2nd. That the cost of repairs must be 50% less than timber system, because we use none of the abominations, such as spikes, knees, plates, &c., which cause the great expense of repairs—of track and rolling stock.

3rd. That as the rails are bent, and the stringers cast to the radius of the curve, and turnouts required, must therefore be accurate, and as each part is numbered and tested before shipment, the commonest mind can put them by their numbers together, and by driving the wedge key through the mortises in the stringers and the lugs on bottom of rail, lock all the parts together. In corroboration of this fact, on November 21st last, I took up the necessary (Belgium Block) paving and laid a 56′ curve 34′ radius, repaired the same in eight hours with eight men, without any obstruction to street or bridge travel.

On the other hand, a curve built on timber system, is a mass of fitted timber, spikes and braces, slow and very expensive in construction, and requires *skilled* labor.

The longitudinal iron stringer is not only "ideally very pretty," but has practically shown its superiority over the timber system—in its greater lateral and vertical stiffness, rapidity in construction, can be laid in winter or summer, less paving and no obstruction to street travel while building, no injury to track from digging ditches on account of its vertical stiffness, and less obstructive to those digging ditches for water mains in not saving the timber cross ties. As for telegraph wires, when they have to be buried, a slight alteration in the longitudinal stringer will adapt and make them safe guardians for those important threads.

I trust Mr. Craig will examine my comparative statement of cost of systems, and point out wherein I fail to prove the superior economy of iron over wood, or why a sinking fund would not be created from said economy to meet all future cost of repairs.

I have had upwards of twenty years practical experience in railway construction and repairs, and have long since compared the *timber* system to a man who, born an invalid, requires plasters, pills and other condiments to keep him alive; while the metal system is like the man, born with an iron constitution, who for three score years and ten has fought the stern battle of life, is still hale and hearty.

T. H. Gibbon, Engr.,
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Horse Shoeing.

Prof. Slade, of Harvard College, expresses some good common sense views in regard to shoeing horses, in the following:

Horse shoeing has given rise to much controversy, yet it is a matter which in itself, so far at least as regards the principal object in view, is extremely simple and easily understood. The object of the shoe is the protection of the ground surface of the outer wall of the hoof against excessive wear. In the wild horse the balance between the growth and the wear of the horn of the hoof is equally maintained, but when civilization subjects the animal to hard and rapid labor upon paved and macadamized roads, then this balance is destroyed—the wear exceeds the growth. Hence the aim of the farrier is to ward against this condition of things by attaching a rim of iron or steel to the circumference of the foot. The moment this is done, however, the balance is again destroyed: the growth will exceed the wear, necessitating in time the removal of this metallic rim, and the reduction of the horn by artificial means. Although the growth of the horn down is equal over the entire surface of the wall, it will usually be found that in the healthy foot more must be removed from the toe than from heels or

quarters. This is because the shoe is firmly fastened to the toe; whereas, in the other regions—especially at the heels—there is a certain amount of motion allowed by the absence of nails, and consequently more or less wear takes place. This may be readily seen on examination of a shoe that has been worn for three or more weeks, the burnished line on the foot surface of the shoe showing distinctly the outline of contact.

It may be asked whether it is not practicable in a great many cases to dispense with shoeing. We answer most unhesitatingly yes, with great benefit to the animal, as well as to the owner. There are many country districts where the roads are of turf or are sandy, and where shoes are unnecessary. If the colt is never subjected to this process, the foot acquires that natural firmness and hardness which will serve the animal under ordinary circumstances. In winter, when roads are very slippery, and the horse is called upon for heavy draft, in many cases we must provide means by which he can gain a firm foothold, and this, in the present state of our knowledge, can only be done by shoes with calks. We do but follow a blind and foolish custom where we apply shoes without the necessity.

When shoes have been constantly worn, and it is desirable to dispense with them, great care must be exercised in gradually accustoming the foot to this new condition, and no long and severe labor should be at once demanded of the animal. Calks are detrimental under any circumstances, and should always be avoided if possible. There can be no reason or excuse for their use on road horses of light draft in summer, even on pavements. When actually required, it is very essential that they should have an equal bearing on all sides—at the toe as well as at the heels. Any unequal distribution of the weight of the animal is sure to bring about strains of the ligaments, sinews, and muscles. The fashionable heel of the modern belle is not more sure to lay the foundation for future suffering.

No shoe should be allowed to remain upon the foot more than four or five weeks. Many horsemen patronize the farrier who nails on the shoes so that they will stay more than double this time, with the idea that such a proceeding is economical, whereas it is the furthest possible remove from economy. As the growth of the horn is constantly downward and outward, the shoe, which when applied weeks before, was fitted to the foot, has now become altogether too small, and consequently there is pressure upon the sensitive portions at the quarters, causing corns and other affections. On the removal of the shoe, if again to be applied, the ground surface of the wall of the hoof must be reduced by the rasp to a perfect level, which can be attained by the eye accustomed to good work. The level of the untouched sole forms a ready and practical guide for the amount of reduction. Neither the sole nor the frog should undergo the least mutilation, since nature removes by constant exfoliation all superfluous bone; neither should the natural barrier at the heels, provided for the express purpose of keeping the foot expanded, ever be cut into, as is the almost universal custom, under the insane idea that it "opens out the foot." No greater folly or barbarity can be permitted, and no surer way could be devised for producing contraction with its attendant evils. The walls of the hoof should never be rasped. It is by this process that the external fibres of the horn are destroyed, the beautiful polish removed, and the internal surface exposed, whereby the entire structure is rendered more brittle and unfitted to perform its functions.

Let the intelligent horseman who has hitherto given little or no thought to this important subject follow the above instructions, and satisfy himself of their correctness, and tell them to his neighbors.

An Alleviation, Not a Cure.

The new Street Railway Bill is now a law. It provides that the local authorities of a city shall not give away any more valuable railroad franchises for their own benefit alone, but that such privileges shall be put up at auction, after due public notice, and sold to the bidder who will pay the city the largest percentage per annum of the gross receipts. But the percentage agreed upon is not to be less than that required by the law of 1884, which is 3% on the gross receipts for the first five years and 5% thereafter.

The law provides that the bidder to which the franchise may be sold shall be an incorporated company organized to construct, maintain and operate a street railroad in the city in which the franchise is granted. This opens the door for the competition of all existing railroad companies, and it also requires the organization of a company by any new persons who may desire to compete for a franchise. It is charged that this and other clauses of the bill were designed to give an advantage to the Cable Company which made such desperate efforts to secure a wholesale franchise by methods similar to those pursued by Jacob Sharp and his friends.

The law finds favor with many persons in the belief that it will put a total stop to the bribery of the Aldermen. But it is by no means a complete safeguard. When Jacob Sharp bought the Aldermanic votes for the Broadway franchise the law required him to pay 3% of his gross receipts to the city for five years, and 5% thereafter. It is now seen that he could have afforded to pay a million dollars in bribes if these percentages had been doubled, and still have made an enormous profit out of the franchise. We believe it would have been wiser to require the sale of the franchise for a sum of money paid down in addition to the percentages required by the law of 1884.

The inefficacy of this law as a means of wholly preventing the bribery of the Aldermen is to be found in the fact that, while the franchise is to go to the person offering to pay the highest percentage, it is still optional with the Aldermen whether they grant or refuse the consent of the city. They grant nothing without being paid for it.—N. Y. World.

Equal Rights for Workers.

There is one question connected with the labor troubles that has attracted some attention, but not nearly so much as it deserves. That is, Who and what are the men, and where do they come from, who are always ready to step into the vacant places when workmen go out on strike?

We are too apt to think that the members of the trades unions are the only hand workers, and that when they have been satisfied the whole labor question has been solved. Recent facts give an emphatic contradiction to this theory. On the Missouri Pacific Railroad about 4,000 Knights of Labor struck. The company appears to have been able to fill all their places at once, and traffic on the road would apparently not have been interrupted a day had not violence been resorted to. On the Third-avenue street-car line in New York about 1,300 men struck. The company were able to fill all their places at once, and only mob action prevented keeping the road in full and continuous operation.

Do not these cases show that there is a great army of unemployed who do not belong to the trades unions, and to whom it is the height of good fortune to get the very employment that the trades unionists are throwing away? These men who are eager to step into vacancies that the strikers leave have as good a right to work for a living as the trades unionists have. And they have as good a right to call on the authorities to protect them in their efforts to work and live as trades unionists have. In fact, the question whether such men can or cannot be protected in peacefully pursuing their occupations is a test of the strength of our social system. If law and opinion are not strong enough to defend and sustain honest workers at any calling, then our system is a failure, and must be recognized as a government by mob and not by law.

It is the custom of the members of trade unions to call all other workers "rats," and "scabs," and "blacklegs," and other bad names. But it does not appear that they deserve to be so stigmatized. If they do nothing but take such work as offers at such pay as they can get, they are only doing what it is every man's right to do and to be protected in doing. That must be understood, and strikers must be punished severely for interfering with other workers if this is to be a country where life, liberty, and the pursuit of happiness are to remain secure.

To all appearance, the non-union workers are much the more numerous, and it will be impossible, when the subject is fully canvassed, to ignore them or allow their natural right to sell their labor in any market that suits them to be interfered with. It is so very unamerican and unreasonable to permit any set of men, who

don't work themselves, to beat and maul and intimidate another set of men whose only offense is willingness to work, that it can not and will not be permitted. The whole community will rise—and in arms, if necessary—to protect men who want to earn a living in doing so. Society cannot exist unless this right is defended. Strikers who expect to keep their places vacant by mauling and maiming and even murdering other workers who are as good and have as good rights as themselves, should understand that in thus becoming lawbreakers and rioters they are putting themselves in peril of the severest penalties of the law, and that they are also attempting to accomplish the impossible. In this free country free men who ask nothing but to be allowed to do honest work must and will be allowed to exercise that natural and lawful right and will be protected in it.

The moral of this is that in these times men who have good employment will show good sense by sticking to it, at least till they can do better. Everywhere there is a great army of the unemployed ready to step into any vacant place that commands regular wages. And this great army of willing workers cannot be kept out. They have a right to work and nobody has a right to keep them from working. Any man who leaves his place vacant, has only himself to blame if he finds another man in it when he tries to come back. This is especially true of unskilled occupations. Any man of ordinary intelligence can learn to drive a team or brake a car or turn a switch in two or three days. All such places left vacant, even if they are thousands in number, can be filled at a day's notice. Skilled workmen can not be found so quickly, but in most trades there are many unemployed who would be only too glad of the chance for work which a strike would give.—Buffalo Express.

Destruction of the Metropolitan Shops.

The great building used for several months past by the Metropolitan Railway Co., of Boston, as a storehouse and repair shop, but formerly known as the New England Intitute Building, on Huntington avenue, Boston, was destroyed by fire June 21st, resulting in the burning to death of at least five, and possibly fifteen men. The foreman was the first to see the fire, about 2 o'clock, but had hardly r ng in an alarm before the building was a mass of flames. The fire started in the right corner of the lower floor, but almost in a moment the flames had reached the paint room directly above on the second floor. From thence the fire spread with great rapidity to the wood working room and the trimming room. The oil in the paint room spread over considerable space after the fire had entered the room, and was a speedy carrier of the destructive element. The roof fell in soon after the second alarm was rung in, and five minutes later the sides of the building nearest the roof crumbled and fell. The iron work offered no resistance to the flames and soon the strong bands were warped and twisted. The fire was intensely hot, but on account of the wind which was blowing toward Brookline the firemen were enabled to work with advantange on the easterly side of the building.

The building and land were purchased in December by the Metropolitan Horse Railway Company for $150,000. Within its walls were about 100 box cars, valued at $700 each, belonging on the different lines operated by the company. Only one was saved. The company has added about $60,000 worth of stock, machinery and tools. The burned building was erected in 1881 by the New England Manufacturers and Mechanics' Institute, a corporation similar to the American Institute in New York. Exhibitions were held there in 1881, 1882, 1883, and 1884, but the enterprise proving unprofitable, the building was used for sometime as a skating rink and for other purposes. The fact that the building was erected upon leased land, together with the unprofitable exhibitions, forced the corporation into insolvency about a year ago. The building was of iron and brick and had 35,834 square feet, or about eight acres available for exhibition purposes. The main building was 540 feet long by 384 feet wide.

Thus far the bodies of the following persons have been taken from the ruins: Alex. Cambell, Wm. Taylor, Oliver Frost, Patrick Lyons and James Mullen. The injured are John McDonald, Wm. Sturgis, Joseph Whiddeu, Joseph Hazeltine and Eph Farren.

Later.—Seven bodies in all were removed from the ruins, three of which were so badly charred and disfigured that indentification is impossible. The names of the others are believed to be as follows: William Taylor, Oliver Frost, Patrick Lyons, Alexander Campbell. The body of the negro known to have been burned at the window has not been recovered. This makes eight fatalities known to have been caused by the fire. The foreman of the repair shop states that all of the eighty-eight workmen in the building when the fire broke out are accounted for, with the exception of the four named above, and the other four unfortunates were probably strangers who entered the building to assist in removing the cars.

The actual loss is a difficult matter to estimate. President Richards' figuring, given elsewhere, evidently makes it very low, for the building cost over $400,000, and the sale at $16,000 as mentioned by him was over and above a mortgage. While the loss to the company is doubtless as he states, yet the actual loss in property is much greater, and the following figures probably approximate it more nearly: On the building, including the improvements made in fitting it for the uses of the road, $100,000 to $150,000; on cars and other rolling stock, $60,000; on machinery, $30,000, and on patterns, $10,000, making a total of between $200,000 and $250,000. The insurance is placed in various American and foreign companies, and is about as follows: On building, $25,000; on stock and machinery, $25,000; on box cars, $600 per car, or from $45,000 to $60,000 on all cars, making a total of from $95,000 to $100,000. The whole cost of the property when ready for exhibitions, exclusive of the land, was about $400,000.

President Richards says, "I am, of course, much disturbed by what has happened, but not so much by the loss of property as by the loss of valuable lives, a thing for which nothing can compensate. Rebuild? Certainly. I laid all my plans to do so while I stood in the meadow this afternoon watching the fire. I have examined the wall as far as possible and believe that upon them, with a little bracing when needed, I can erect a building much more suited to our wants than the one destroyed. I shall simply put on a large monitor roof, making but one story in the building, and shall divide this story by solid brick partitions, so that a repetition of this fire will be impossible. In the old building there was much room—in fact, the whole front of the building that we did not utilize at all. The new building will come way out to the street, and will not have an inch of waste room in it, besides being built specially for our needs. Just as soon as the ruins are cool enough to work upon, a large force of men will be set at work clearing away the wreck and preparing for building.

"In the meantime, we shall not be idle, so far as car repairing and car making go. We have the old shops at the Roxbury crossing still intact, with all the machinery and engines except a few heavy pieces. I have ordered all the men in Randall's (the mechanical) department to meet me at the old shops to-morrow morning, and then we will start at once to get things in order. You see I have over one hundred cars to build or buy before the snow flies and no time is to be lost. The public will not feel the loss of the burned cars, for we always have enough of a reserve supply on hand to meet all emergencies. Some of the cars put into use will not be new ones, but the public gain in the end in getting new ones finally in place of those destroyed. We will be all right by New Year's, and nobody will be the worse for it.

"The loss is a difficult matter to estimate without figures at hand to refer to. We paid $300,000 for the building and land, but the land is worth that alone if it is worth anything. The building cost $400,000 or over to build, but it was sold at auction for $16,000 before we bought it. Still that is, of course, not a fair valuation of it and it was worth more than that to us. As I look at it, its value to us is about what it was insured for—$25,000—and represents what we lose; though not the actual loss in dollars and cents on the value of the building. What the building might be actually worth I cannot say, but certainly it was worth not much more to us than the figures named. Our box cars are insured for $600 each, and our open cars for $300 each. Now those sums will not replace a car, although it might be the value of an old one, but I think our loss on this property cannot be over $50,000, including in this some 25 or 30 snow plows, also in the building for

repairs. Then our stock and machinery, the loss may be $25,000 more, so that in all it figures up about $100,000. But I hope to save some of the machinery, heavy castings that would not warp readily, and also realize something from the old iron which must abound. One loss we cannot make up and that is the loss of our patterns for frogs, switches, &c. These were carefully piled up in a room prepared for them, but all are destroyed and no money value can be placed upon them. But in all the company will not be so much out of pocket. We have our insurance, and then whatever we put into a car over the insurance we have as capital and get its full value. We shall get a better building, and while I should not, of course, had the fire happen, yet when we get straightened out after it we shall be better off than ever.

"What I feel most downhearted about is these men who have lost their lives. I would rather have lost a great deal than the life of a single man. I shall make it my personal business to see that their families are suitably provided for and shall do all in my power to help them. I shall also compensate the workmen who lost their tools and shall see that they sustain no loss."

Ayers' Anti-Rattler.

One of the most annoying features in street car travel is the deafening rattle and clatter of the car windows and shutters. In the new cars this trouble is to a greater or less extent avoided, but even with some of the latest and most expensive devices the rattle still troubles us after a little wear. The remedy offered by this invention is at once so simple and so inexpensive that it

would seem that the trouble might be entirely done away with. They are equally applicable to old or new sash. They consist of a rubber button with a countersunk hole for an ordinary wood screw and in applying it you screw one of the holders on each side of the casings of the car window at center of sash. Place them so that the sash is pressed hard against the outside strip—thereby forming a complete weather strip and preventing all rattling. The window can be easily raised, as the appliance revolves in the act.

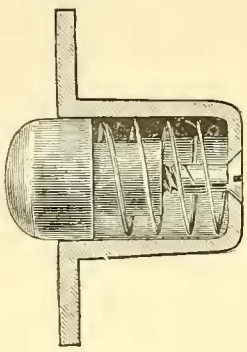
The material used in the button is a compound of rubber and rotten stone, for which it is claimed, that while it will wear away it will not scratch or mar paint or varnish.

*The Ayers Patent Sash Holder Co., Room 42, Stewart Building, New York.

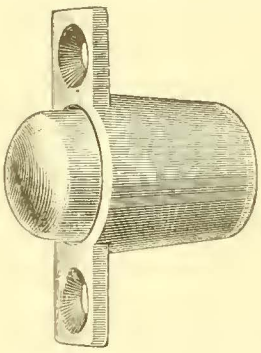
The General Manager of the Wichita, Kansas, Street Railway writes us: "I had my file of JOURNAL burned the other day, and would like to know if I can get the numbers till Vol. 2, No. 7. I consider the paper invaluable, and every one should keep them on file, so many valuable suggestions are therein contained."

Ayers' Patent Sash Holder.

The illustrations give an excellent idea of this invention, and it needs no extended description. It is designed for all kinds of windows and is especially recommended for holding car windows at any height.



The claims of the makers are: 1st—It holds the sash at any spot and prevents it from rattling in windy weather. 2d—It is vastly more durable and much less liable to get out of order than the cord and weight, and unlike any other device for unweighted windows, it is entirely out of sight. 3d—It is extremely simple in its application, only



requiring two holes bored in each side of the sash, about four inches from the top and bottom, in which to set the holders. 4th—They are very compact and so constructed that it is impossible for them to get out of order. The material of which the holder is composed is a compound almost as hard as iron, but is of such a nature that it will not embed itself in the wood, nor mar the paint. 5th—This sash holder is especially adapted to car windows. The custom now being to fit the sashes so tightly that it is almost impossible to raise them in damp weather, with this holder they can be fitted more loosely and, in comparison with the sashes as now set, raised with ease.

*The Ayers Patent Sash Holder Co. Room 42, Stewart Building, New York.

If you want to buy or sell street railway property, want a position or want a man for a position on a street railway, advertise under "special notices" in the STREET RAILWAY JOURNAL.

If you want anything in the street railway line, consult our directory, and if you do not find what you want write to the publishers.

Cable Railways in Massachusetts.

Mr. Lilley, of Middlesex, for the Committee on Street Railways, reported the following bill in the House June 21st:

Section 1. Any street railway company which is now, or may hereafter be formed, may, with the approval of the Board of Aldermen of cities and Selectmen of towns, establish and use the cable system of motive power, so called, for the purpose of operating its road, and may, with the approval and under the direction of the Board of Aldermen of cities and Selectmen of towns, make such underground or surface alterations in the streets or ways through which such railway passes as may be necessary to the purpose, subject, however, to the provisions of chapter 113 of the Public Statutes, so far as the same are applicable.

Section 2. Any street railway company, operated by cable motive power, so called, which enters upon and uses the tracks of another in the manner now provided by law may, with the approval of the Board of Railroad Commissioners, use the cable motive power of such other company, and for such use shall pay such compensation as the Board of Railway Commissioners shall from time to time determine. The manner and time of payment of such compensation to be fixed by the Commissioners, after hearing, in the manner provided by chapter 112 of the Public Statutes for compensation for the use of motive power by connecting railroads.

Section 3. Any street railway company for the purpose of carrying into effect the provisions of this act may increase its capital stock in the manner provided by sections 58, 59 and 60 of chapter 112 of the Public Statutes, for increase of capital stock of railroads.

Section 4. The provisions of chapter 113 of the Public Statutes relating to the formation of street railway companies shall, subject to the provisions of this act, apply so far as possible to street railway companies in whole or part by the cable system of motive power, so called, the same as though such street railway companies were operated by animal power.

Section 5. This act shall take effect upon its passage.

The Swing System.

Complaint was made to the State Board of Railroad Commissioners against the Williamsburgh and Flatbush Railroad Company by D. G. Wilson, representing the employees, concerning the use of the swing system, by which employees make two trips in the morning, are laid off for eight hours, and then make several more trips to finish up the day's work. The point made was that the legal limit of twelve hours' work on railroads was exceeded. The Commissioners were unanimous in their opinion that the bill does not interfere with the swing system, but simply prohibits the exaction of fourteen hours' continuous work, which the time tables then in use made necessary. They told the employees that their only redress was to make up a new time table, and send it to the Commissioners, who would present it to the railroad company with suggestions.

Rules for the Conduct of Drivers.

Our readers will find the following rules, in use by the largest street railway system in Boston, and perhaps in the country, interesting. The discipline of this road is well nigh perfect, and the men are well satisfied with their treatment. The rules for conductors and other employees are equally explicit. As most of the troubles with employees on street railways have originated with drivers, the fact that this road has had no strike or disturbance of its regular routine makes its methods particularly valuable. Other roads would, of course, have to change the local features of the rules, but aside from that, they are probably as satisfactory as could be compiled.

1. You will see that your horses are properly harnessed before starting from the terminus of the road, and avoid stopping on the road to alter the harness. The use of whips is strictly prohibited. Examine your car on every trip, before starting. See that it is in perfect order, especially as to the brakes, brake handles, ratchets and dogs, and if anything is defective report the same, in writing, to the Starter.

2. You will, at any time, when your horses are not ready, help harness them yourself, and report any such neglect of duty on the part of the hostlers, at the Division Master's office.

3. You will at no time substitute a man in your place; all substitutions to be made from Division Master's office.

4. You will be required, when absent from duty, to report at the Division Master's office, either by letter or in person, before 2 P. M., the day before you wish to go to work.

5. You will not leave your car, anywhere on the road, to get refreshments, or for any other purpose not actually necessary; nor at the terminus of the road, without first notifying the Conductor of the necessity.

6. When going to or from the stables with the horses hitched to the pole, let the traces out long enough, so the eveners will not hit their heels. If your horses ever try to get away from you, drop one rein and hold on to the other; by so doing you will bring them round in a circle, and will be better able to control them. When the horses are hitched to eveners keep the eveners from hitting their heels by lifting the rope or hook furnished you for that purpose. If a horse loses a shoe on the street going from the stable, send the team back by the first car you meet going to the stable, and take the team on said car and go on to the end of your route; then back to the stable. If you have horses that crowd each other when at work, or any not well matched, nor cleaned, you will report the same to the Division Master. Also, you will report all tow boys who do not attend to their duties.

7. You will not drop your pole in detaching your horses from the car, except in extreme cases, to avoid accidents. If your horses become balky from any cause, and the detention causes a block-up on the street, make an immediate exchange of horses with some other driver at your rear, or going in the opposite direction, who has a lighter load than yourself, no matter at what stable the horses may belong. In this respect drivers are expected to be accommodating to one another, and make necessary changes of horses for the time being on any such occasion. Any known violation of this rule will be sufficient cause for immediate dismissal.

8. When you see extra cars running with regular cars, never drive in between them, nor do anything to separate them; wait until they pass, and then go on. When driving an extra car on the time of the regular car, keep as close to it as you can with safety. Always see that the rear brake is off before starting the car, and never put it on hard when you want the car to move. If you run off the track apply the brake very lightly, if at all, until the car is on again. Have the horses far enough from the car to make the traces straight when they start it.

9. You will pay particular attention to braking-up your car, when approaching a team or carriage on the track. Be sure and brake-up in season to give the carriage or team sufficient time to get out of the track, if your wheels should slide. Allow no one not in the service of the Company to manage your brake.

10. You will walk your horses over all curves, switches, and turnouts. At points where two tracks unite you will drive with great caution. Racing is strictly forbidden on any part of the road. In case of a collision at the junction of two tracks, the drivers of both cars will be discharged. Enter into no conversations with passengers. Answer questions courteously, but do not allow your attention to be diverted from your duty.

11. You will bring your horses down to a walk before crossing the cross-walk on Tremont street, at the junction of Court street, and walk them until you are over the cross-walk, at the junction of Cornhill and Court street; on Tremont and Washington streets, at Eliot street; on Harrison avenue, at Kneeland street; from stand at Tremont House to Winter street; on Hanover street, from Court street to the American House; across New Washington street; on Battery street, crossing Commercial street; on Causeway street, from Leverett street to Merrimac street; on all bridges.

12. You will, at the foot of Cornhill, allow the car coming up New Washington street, the right of way.

13. You will be very careful and drive slowly, when turning from Court street on to Cornhill, coming from the depot.

14. You will pay particular attention to the rules and regulations of the Board of Aldermen and the Police Commissioners, relating to cars. Copies of said rules can be obtained at the Division Master's office.

15. You will avoid stopping your car across any cross-walk or street. You will run on your time, as nearly as possible, and avoid "loafing," or crowding with other cars.

16. You will avoid running your car close up to the car in front of you, when you are blocked-up, on the street; always giving room for teams to pass between your horses and the car in front. You must never, under any circumstances, after you have stopped your car, start again, unless you have the signal by the bell from the conductor.

17. When your car is in motion, you will keep back so that carriages can pass between you and the car in front, without risk of collision; and when south of Dover street, you will keep 100 feet from other cars.

18. Your particular attention is called to the following Section of Act concerning Street Railway Corporations, viz:—When a street railway crosses, or is crossed by a steam railroad at grade, where locomotive engines are in daily use, the driver of the car on the street railway shall, when approaching the point of intersection, stop his car within one hundred feet of the crossing. No street railway car shall pass another car standing to receive or deliver passengers in a parallel track in the same street, at a rate of speed faster than a walk. For each violation of this Section, the driver shall forfeit ten dollars, and the Corporation employing the driver shall forfeit twenty dollars.

19. You are not allowed to be seated while your car is in motion.

20. You will always stop your car whenever persons wish to get off the front platform, notwithstanding they may say to the contrary. You will also notify passengers that it is a violation of the rules for them to enter or leave a car by the front platform.

21. You will pay particular attention to the bell, and keep your brake on until the Conductor strikes the bell for you to start. One bell is the signal to stop in ordinary cases, two bells to start, three bells to stop instantly, whether on curves, grades or anywhere else. If your brake does not work well, and you wish the car stopped by the Conductor, give him three quick, sharp bells. When you get the bell to start, do not hurry too much; allow two or three seconds for the prevention of accidents. Be reasonably prompt, but not reckless.

22. You will keep a good lookout for passengers on your route, and stop your car as soon as possible and proper, when asked or notified so to do. Notify the Conductor of passengers or large parcels on the front platform.

23. You will, at all times, be courteous and polite to passengers, answer proper inquiries for information, and use especial care when passengers insist on getting on or off the car by the front platform. You will not shut the door of the car, as accidents are liable to occur therefrom.

24. You will take the best of care with horses, cars, or any other property of the company placed in your charge. You will, at all times, when on duty, wear the uniform cap or hat.

25. Accidents.—You will use your utmost care in controlling your team and car, so as to prevent any kind of accident, either to

your horses or car, or to either horses or vehicles by collision, or to persons, or passengers getting on or off the cars, crossing the streets, or in any other way liable to be injured by the horses or cars of the company. In case of slippery tracks, causing your car to slide, be more than ordinarily careful; go slow down grades, and avoid collisions. Report all cases where tracks are not properly sanded or otherwise in good order. Be as careful to avoid collisions with heavy teams as with light ones, as slight collisions are liable to throw persons from their seats, and severely injure them.

26. In case of any accident, however slight, to person or property, you will note all the circumstances within your observation, and at once give the facts, and names of any witnesses you may obtain, to the Conductor of the car. Under this and all other circumstances, while on the car, you will obey the orders and instructions of your Conductor.

27. You will be held responsible to the company for all damage caused by neglect of duty, or carelessness on your part, to their property, or to the persons or property of others, for which the company may be held responsible or liable.

28. Any Driver who may be found wilfully or recklessly violating any of the above rules, will, upon sufficient proof, be immediately discharged from the service of the company.

29. Any careless or negligent repetition of a violation of these rules, will subject the Driver to immodiate discharge. Any Driver who may be found intoxicated, while on duty, will be discharged.

30. You will obey the orders of the "Aids" while they are on duty, and in uniform.

31. Drivers are especially directed to make frequent and careful study of the above rules; and especially of those pertaining to accidents to persons or property; and to have a copy of the rules at all times in their possession.

Recent Patents.

Automatic street railway switch, M. Dudley, Lynn, Mass.

Cable brake, A. Roncaglia, Denver, Col.

Cable railway, W. G. Huey and F. J. Lovegroove, Philadelphia, Pa.

Cable traction for street cars, O. H. Jadwin, New York.

Car brake and starter, D. Hall, Gault, Mo.

Car brake and starter, F. Tompkins, New York, N. Y.

Car starter, C. L. N. T. Hansen and C. N. Fischer, New York.

Car starter, S. Rockafellow, Muscatine, Iowa.

Carter starter and brake, J. W. and G. R. Strickle, Louisville, Ky.

Cable railway, H. M. Laue, Norwood, Ohio.

Circuit for electric railways, G. H. Short and J. W. Nesmith, Denver, Col.

Draw iron for street cars, J. H. Whiteley, Arlington, Md.

Device for operating street cars, M. C. Tully, Louisville, Ky.

Electric railway, E. M. Bentley, Brooklyn, N. Y.

Electric railway, S. H. Short, Denver, Colorado.

Feed trough, H. Mendenhall, Audubon, Iowa.

Feed trough, S. A. and J. M. Rine, West Carlisle, Ohio.

Forging stops for cable railways, I. Harris, Cleveland, Ohio.

Gripping device for wire cable railways, R. Wetherill, Chester, Pa.

Gripping device for cable cars, G. H. Dodge, Philadelphia, Pa.

Guard and trace attachment for harness hames, J. Douglass, Brooklyn, N. Y.

Halter, E. R. Michaelis, Sycamore, O.

Hame fastener, I. Howland, Chicago, Ill.

Harness, C. LaDow, Albany, N. Y.

Harness, J. F. Randall, South Haven, Michigan.

Horseshoe, J. P. Dudley, San Jose, Cal.

Horse collar, J. Ambrose and G. J. Atkins, Youngstown, Ohio.

Horse collar pad, W. Hurlburt and B. B. Havens, Rushville, N. Y.

Horseshoe, C. W. Hawes, Washington, D. C.

Link cable for street railways, S. R. Mathewsou, Portersville, Cal.

Metallic cross tie for street railways, H. Howard, Boston, Mass.

Quarter boot for horses, E. A. Leonhard, Dayton, Ohio.

Registering door for street cars, H. B. Corner, Philadelphia, Pa.

Snow sweeper and melter, T. Wright, Camden, N. J.

Street railway switch, F. D. Robinson, Cleveland, Ohio.

Street sweeper, D. E. Grove, St. Louis, Mo.

Switch for cable or other conduit railways, W. Wharton, Jr., and E. Samuel, assignors to W. Wharton, Jr., & Co., Philadelphia, Pa.

Tension apparatus for cable railways, H. M. Lane, Cincinnati, Ohio.

Ticket punch and register, G. J. Thorpe and J. H. Richardson, Manchester, Eng.

Traction cable system, C. H. Bowen, Washington, D. C.

Track sanding apparatus for street cars, W. T. Butler and G. A. Hathaway, Boston, Mass.

Underground conduit, J. Beeler, assignor of one-third to E. Coombe, Cincinnati, Ohio.

To Prevent Wheels Slipping.

Mr. H. Tisdale, Treasurer Lawrence Transportation Co. of Lawrence, Kansas, writes that they use one and two horse cars, and have been enabled to prevent the wheels from slipping by the use of poles on the double and shafts on the single horse cars.

The "swing system," the cause of so much concern to the drivers and conductors the past few months, is said to have been originated by Col. A. W. Johnson, President of the Citizens' Street Railway, Indianapolis, Ind.

Electric Street Cars in Philadelphia.

The Union Electric Company has recently been operating an experimental electric motor car on Ridge avenue, between 32d and 33d streets, Philadelphia, and has met with very fair success. Each afternoon, a car carrying the usual burden of passengers has been run over the track at a rate of nine miles an hour. The system employed is that of underground electrical transmission. A conduit, 4½ inches wide by 9 deep, and having a central slot similar to that employed on cable roads, extends along the center of the track. This has been laid on concrete and covered with Portland cement. At suitable intervals, connections are made with the sewer, in order to permit the rain water to discharge or the conduit to be washed out, should that be necessary. A copper conductor, one-quarter inch deep by one inch wide, runs along the conduit on each side of the slot. A grooved piece of channel iron is attached to the bottom of the conductors. A so-called "traveler," supported by wheels, runs in the slot, and is provided with two springs which slide along the channel irons on each side of the slot, and thus receive the electric current. The traveler is connected to the car by small chains. From its center, wires extend into the car, connecting the motor on board with the copper conductors in the conduit, by which the electric circuit may be closed. A regulator on the car controls the current, and permits the car to be driven in either direction. The trials covered a very stormy period, but it is stated that the bad weather caused no interruption in the working of the system. The estimated cost per day of running the electric car, according to the Ledger, is $1.84, while that of operating a horse car is $4.74. Neither estimate includes salaries. The cost of ten miles of electric railway on this system, and fifty cars, is stated to be $175,000.

THE BROOKLYN UNION ELEVATED RAILROAD CO.'S $1,000,000 capital stock in 10,000 shares of $100 each was all subscribed for June 9. Fred Uhlmann and Wm. N. Cohen, who are also heavy stockholders in the Brooklyn Elevated Railroad, each subscribed for one-fifth of the stock. The other subscribers are New York and Brooklyn merchants. The directors elected the following named officers: Frederick Uhlmann, President; William N. Cohen, Vice President; George W. Wingate, Secretary and Treasurer. The majority of the directors and officers are connected with the Brooklyn Elevated Railroad. As soon as the consent of the property owners has been obtained for the construction of the various routes a petition for the right to build will be presented to the Board of Aldermen. Confidence is expressed that the Union Company will be at work on the road within six mouths.

The Electric Railway at Minneapolis, Minnesota.

Minneapolis with its phenomenal growth has for the last few years felt the necessity of rapid transit, to bring its people from the city to the suburbs, where cheaper homes and more comfort can be obtained by the multitudes.

The object was accomplished by railway cars propelled by 75 and 80 horse-power steam dummies doing the work, the latter coming down in the heart of the city with trains packed full. Of late, however, the residents along the streets where the railway passes, and the public in general, have proclaimed the steam dummy a nuisance and have succeeded in stopping its coming down in the dense part of the city, so that, in order to bring the traveling public into the city, some means other than steam or horse-flesh had to be resorted to.

After some figuring, the Minneapolis, Lyndale & Minnetonka Railway Company entered into a contract with the Van Depoele Electric Manufacturing Company of Chicago, to bring the trains in the city by means of their electric motor. The trains consist of three or four passenger cars, each weighing eleven tons empty. The number of passengers carried is often as high as 600 at one time, so that the weight of the train is as follows:

Four cars, each 11 tons.....	44	tons.
600 passengers at 130 lbs.....	39	"
Motor car.....	8	"
Total.....	91	tons.

The cars being the fac simile of those used on the New York Elevated Railway. The steam dummy brings the train to a point as far as allowed to come in the city, and then the electric motor brings the train down town with its passengers, and as soon as the cars are emptied, the waiting throng rushes in and in less than a minute the train is moving toward the dummy, there to deliver its train and to receive an incoming train to be brought down.

This operation of the electric motor begins at six precisely in the morning, and closes at half past eleven or twelve at night. The distance over which the electric motor travels is at present somewhat near a mile; the speed being about seven miles per hour; that being the regulation speed within the city limits. Considering the constant stopping and starting at each block, the grades on the road, and the heavy trains, the electric motor must be given the credit of doing at least as good work as could be expected from any steam engine : during the seventeen or eighteen hours of service, not a single minute of stoppage is made except to let off and take on passengers. This electric road has been in operation for several weeks without a hitch or a breakage. The electric motor, which is of about 40 horse power, works as perfect under a heavy as under a light load. The electric generator furnishing current to the motor is driven by a 12 inches x 18 inches cylinder engine, common slide valve, making 125 revolutions per minute; steam 60 or 80 lbs. per square inch. Consumption of coal in 18 hours run, 3000 lbs.

From the permanency and the character of work done by this electric railway, it must be admitted that electric railways on elevated as well as on ordinary roads will become facts in the immediate future. There is no more trouble to build two or three hundred horse power generators than to build machines of fifty horse power. Several of these machines can be connected up and run in perfect unison, and by adding their currents together, any amount of power can be transmitted, with at least as much reliability as the steam boiler.

Electric motors and generators are, and can be constructed, to-day, which will outlast any steam engine, and from the very nature of these machines it becomes possible to use less expert attendance than in the case of a steam locomotive; the parts being fewer and less liable to get out of order on an electric motor than on any other kind of motor, it must and will become the favorite of the industrial world. The public are gradually losing their skepticism, and what had been proclaimed as an impossibility yesterday, becomes a fact today.

With regard to economy of electrical transmission, it has been shown by Marcel Depres and other that a mechanical efficiency of over 50% is easily obtained, so that by the use of stationary engines and boilers where cheap fuel can be used the production of electric currents and their application leave very little to be desired to make the electric railway system at once practical and economical. The cost of fuel used on a steam locomotive, as compared to a stationary engine, has been discussed too often to be entered upon here, and everybody is well acquainted with the facts.

Street Car Starters.

The statement has been made that some 2,500 patents have been issued in the United States for street car starters. If this is so, it is no wonder that the patent office has become a source of revenue and pays a surplus of several hundred thousand dollars every year into the treasury. It is safe to say that any practicable car starting device will continue to be the one thing needful in street car populsion so long as horse power holds its own against mechanical motors. Inventors have been wrestling fruitlessly with the problem for years, and although the field still remains clear, and is growing larger every day, very little has as yet been accomplished in the way of supplying the "long felt want." To say that the problem is beset with difficulties makes it none the less, but all the more, fascinating to a large number of inventors who are eager to reap the rich harvest of success.

But after all, is there not some delusion about it akin to that of perpetual motion? We are inclined to think there is. Indeed, we are quite sure of it, so far as storing up the momentum energy of the moving car is concerned and making it available for starting. It involves a question of compensation very much like that which is involved in lifting one's self by one's boot straps, or in making something out of nothing, only its absurdity is less apparent. The power expended in checking the momentum is something, to be sure, and it really seems as if this energy could be applied in winding up a spring or in compressing air into a cylinder, and that the power thus caught and harnessed could help start the car.

And so it can be, but there isn't enough of it. The game don't pay for the ammunition. The average street car speed is too slow; the momentum energy is too little; and besides, it is not all stored up, a large percentage of it being frittered away and lost in the slow stopping. The available excess is consequently too small to compensate for the cost of apparatus and the energy expended in hauling the additional weight. A helper in starting is needed most in ascending grades, and on these the momentum power is diminished in proportion to the steepness of grade, while on the heavier grades, where a horse-helper has to be used, it is practically nothing.

A street car can never be made to start itself except down an incline, but the toiling inventors are trying to devise a plan to make it help start itself on a level, with a load of passengers and the additional weight of a mechanical starting apparatus. If the requisite power for doing this could be supplied extraneously from the terminals or at points along the line, and the quantity needed could be boxed up, taken on board and used at every stop, it would be about the thing that is wanted, but the ways and means for doing this are yet to be discovered.—Car Builder.

Street Car Propulsion in Great Britain.

In Great Britain the expense of horse feed is much higher than it is in America, so that the expense of operating street railways with horses reaches very high. Efforts have constantly been made for years to introduce a cheaper motive power, but thus far without success. Steam motors have had a limited application, but the municipal boards object to having them in the public streets, so their use is obstructed by annoying ordinances. When the Portrush Electric Tramway was opened in Ireland two years ago, it was expected that the experience gained in the actual operation of that road would lead the way to operating ordinary street ways by electricity, but nothing has come of it. The application of electricity to car propulsion, says the National Car Builder, is recognized as being still in the experimental stage and capitalists will not put money into experimental schemes that promise so little financial return. In Manchester, there has lately been considerable agitation in favor of introducing the cable system of street car propulsion. The practical success of this system in San Francisco and Chicago is cited as good reason why it should be introduced in Manchester.

The Manchester engineering world has been familiar with cable traction almost since this century began, and it is surprising that it has not been tried more for street-car traction. If we remember rightly the Blackwell Railway in London was first opened as a cable road some fifty years ago or more. That was a failure, principally through defects in the mechanical details, and the loss incurred by the promoters of the enterprise may have deterred others from entering into similar schemes.—Am. R. R. Journal.

THE STREET RAILWAY JOURNAL

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The Third Avenue Railroad Company of New York has by its consistent and firm stand in the recent strike on its line conferred a benefit on the street railways of the country.

As we go to press there are rumors of an impending general strike among the street railway employees in Brooklyn. It would seem as if the results of recent strikes in that vicinity would be anything but encouraging to such a project.

The destruction of the great shops of the Metropolitan Road in Boston reminds us to ask, Is the interest in a Street Railway Mutual Insurance Company dead? Can a plan be devised by which street railway property can be insured for less than two or three times the actual cost of the risk, and that too in insurance companies in many cases having a capital of one-tenth that of the street railway insured?

The Indianapolis, Ind., roads use mules from 800 to 900 lbs. weight, 14 to 15 hands, in preference to horses. They make about eighteen miles a day, and last on an average about six years, when they are in good condition to sell for slower work. Many of them have run on the road for fifteen years and are "colts" yet. They are fed the best quality of corn, timothy hay, rye feed, wheat middlings and oats and as to quantity, "all you can coax them to eat."

"Pay wages sufficient to attract intelligent men. Hire only such. Govern them wisely, firmly, but not harshly. Treat them as trusted servants, not as abject slaves. Protect them always when they are in the right; condemn them without fear or favor when they are in the wrong. Show no partiality."

The above is the creed, lived up to in every particular, of a road that probably pays the highest wages and gives as much or more consideration to its employees as any in the country. And yet those same employees agitated a strike. It would seem sometimes that the more handsomely men are treated the more they will demand.

The New York Third avenue strike is estimated to have cost the company over $270,000. The final and complete collapse of the strike is worth many times that amount to the street railway interests. When the various cases pending in court against members of the Empire Association and others for inciting riot, "boycotting," etc., are decided, the serious nature of such action will become so apparent to employees, that they will hesitate before taking such steps again.

At a meeting of Methodist ministers recently held at Cleveland, Ohio, resolutions were passed condemning the running of street cars on Sunday, and advising people to walk to church. Let us see, how does this figure out:

A car will carry say 20 people to church, an average distance of two miles, in say half an hour. This involves the labor of say 1 stableman, 1 conductor, 1 driver, 2 horses, thirty minutes each.

The plan advised by the preacher would require the labor of 20 people, say three-quarters of an hour, instead, and about the same figures in proportion would apply to all the cars engaged in hauling people to church.

Which is the best way to keep the Sabbath, to go afoot, or ride?

John Casey, a striking New York Third avenue car driver, pleaded guilty June 29 in the General Sessions of riot in stopping a Third avenue car, on May 15, unhitching the horses and setting them scampering down the avenue. "Committeemen Graham and Boyle, who according to the evidence in the case of your associate, directed you to do what you did, are far more culpable than you are," Judge Cowing said to him, "and merit much more severity than I am about to show toward you. I wish I could convince you and all other workingmen of the folly of intrusting your personal liberty to men who do not seem to be half as wise or well informed as yourselves. The whole community sympathized with you and your associates, when you asked for shorter hours and better pay, because you were entitled to both. But when you made other demands, and virtually said that no man who differed with the views of your organization had a right to earn a living in New York, you outraged a cardinal principle of our American institutions, and brought upon yourselves overwhelming condemnation. I sentence you to the penitentiary for six months." Graham is Master Workman of District Assembly 75, Knights of Labor, and Boyle was Master Workman of the Third Avenue Local Assembly.

If you want to buy or sell street railway property, want a position or want a man for a position on a street railway, advertise under "special notices" in the STREET RAILWAY JOURNAL.

If you want to buy anything in the street railway supply line consult our directory and if you do not find what you want write to the publishers.

Street Railway Policy.

Last month we gave the condensed wisdom of a western Superintendent received in answer to our blank recently sent out. The following are the answers of a live manager in St. Louis, who knows what he is talking about:

To prevent a strike give the men what they want or knock them in the head by the supremacy of the law and do it quick. No cure has yet or can be devised while the daily newspaper devotes page after page to publishing the vaporings of hired agitators and political demagogues, thus adding dynamite to dynamite as it were.

Labor Unions should not be recognized; to me, my servant stands or falls; the contrary is to-day the way it stands.

We pay our conductors $2.00 per day; drivers $1.75.

The longest day's work on our line is 11 hours and 50 minutes daily, with pay as above noted. Run what we call tripper cars night and morning with the regular service; the tripper men taking the late and early trips for our regular men, we pay them so much per trip.

The native horse weighing about 1100 lbs., is the best we consider for our purpose. They run about 13 miles daily. Six lbs. of ground corn mixed with about two lbs. of cut timothy, about 5 lbs. of oats and about 8 lbs. of loose hay, with all the Mississippi water they can drink, is the daily allowance for our stock. We experimented with a noiseless, smokeless, steam motor some years ago but it frightened too many horses and we were forced to take it off; the curves and grades, if I recollect right, bothered it some too.

There is no end to the life of a car. While there's a board left to hold a nail, the car will continue to run. We have some the roof of which is the only part left representing the original.

Economy in Driving.

It is too often assumed that a driver's a driver, "and that's the end of it." There is a great difference in the economy with which different drivers handle their teams. In one case the animals are so fretted that their worry is more wearing than their actual work; while in other cases by judicious and skillful management a team of the same temperament is made to do its work in the coolest possible manner, with, of course, a great saving of strength, which is the same thing as a saving in dollars. This subject and its relation to promotion of drivers, and the labor question, will be treated by the well known writer, W. E. Partridge, in our next issue.

Frank H. Andrews, senior partner of the firm of Andrews & Clooney, has bought the entire interests of the heirs of the late B. A. Clooney, and will hereafter conduct the business of this well known supply firm. Mr. F. T. Lerned will have the entire management of the sales. Mr. Lerned, who has just returned from the Pacific slope, has placed the representation of the business in California in the hands of Wm. B. Isaacs, 258 Market street, San Francisco.

Colic—Its Symptoms and Treatment.

In our April number we gave an abstract of that portion of Dr. W. H. Arrowsmith's paper on "Diseases Common to Car Horses," read at St. Louis, devoted to pneumonia. Following is an abstract of the part of the same valuable paper devoted to that very common, very serious and not too well understood complaint, colic. Our readers will find it very instructive and valuable.

The term colic in its etymological sense relates to that portion of the intestines known as the colon, but in the present nomenclature of diseases it is applied to all the acute varieties of pain independent of inflammation and structural lesions that affect the digestive organs contained in the abdomen.

The commencement of an attack of colic is usually sudden; at times the attack begins by the patient manifesting a degree of languor and dullness; if in the stable, he stands back at the end of the rope of his halter and looks around at his flanks; if on the street and in harness, he will not show his usual spirit in driving, will not respond to the bit or whip, will knuckle over on the hind fetlocks and possibly stumble. But, whether the attack appears suddenly or slowly, the horse soon becomes restless, and paws and stamps on the ground; if in the stall, pulls his bedding back, flexes his fore legs, hesitates to lie down, although making the attempt, and finally lies down, either to roll once or twice and then get up or remain down extending all four legs against the stall, resting flatly on the sides, or possibly lying entirely upon his back. These positions are not continued long; he soon rises up, moves about, paws and perhaps lies down again and rolls, at times expressing his suffering with moaning and grunting. The countenance is always anxious and contracted, the eyes are dilated and at times fixed, the nostrils are widely opened, and the whole face expresses pain and suffering. In some cases the paroxysms are intermittent and there is a time of rest to the animal when he remains quiet, although presenting an anxious and expectant look, when in a short time another paroxysm of pain takes place; while in others the pains are continuous, the animal is in constant and wearisome motion, getting up and down, stamping and looking at his flanks. The movements and struggles are more or less violent, according to the severity of the pains. Every horse, however, has his own peculiar form of attack, and his special mode of exhibiting his distress, and the general manifestation will be modified according to the individuality of the patient.

The temperature in all colics at the onset is normal, but may rise a degree from the labor and excitement as the pain continues; the respiration is accelerated, and remains so to the end of the attack, whether fatal or favorable.

The pulse is, as a rule, hard, small and often irregular, and the arterial tension below the normal, while the heart's action becomes decreased; when the disease has progressed somewhat the heart becomes accelerated, but the pulse remains hard, small and thready; this is especially noticed in those cases that terminate fatally. In the first stages there is often a profuse perspiration, and in those cases that are approaching dissolution there will be a profuse sweating and a cold icy feeling over the entire body.

Certain cases of colic, either by treatment or a natural reaction, recover; the point at which a cessation of the pains takes place is shown by a free expulsion of gases or fæces, or a copious evacuation from the bladder. The intense expression of the face passes away and the animal frequently shakes himself and begins to munch hay, while in other cases, even with the best care and treatment, the struggles become more violent and rapid, the symptoms of pain become more aggravated and decided, the animal seems to become unconscious and regardless of the attendants and objects about him, the respiration becomes more accelerated, the pulse, at first hard and thready, becomes less distinct, and finally almost imperceptible; the mucous membrane becomes injected and a cold perspiration covers the whole body. At the approach to a fatal termination a deceptive appearance presents itself; the animal becomes quiet, stands with head out stretched and seems to be in relief; but there is still the characteristic expression in the face of extreme pain; the respiration although not so labored is quickened, the pulse is almost imperceptible and possibly pulseless; the animal lies down carefully, stretches his legs, and with a few struggles and convulsive efforts expires; or at times they persistently stand, the muscles of the shoulders and hips will be seen to quiver, the animal will reel and suddenly fall forward, and with a struggle is dead.

During even slight attacks of colics the functions of the gastro-intestinal canal and of the bladder are suspended, there is a paralysis of the muscular coats of these organs, and as a differential diagnostic point it is well to remember that in all intestinal and stomachic colics the functions of the bladder are checked, and that although the animal may present the desire to micturate, still, the trouble is not in the bladder but in the stomach or intestines.

The different diagnosis of colics is, as a rule, exceedingly difficult. Still, although there are many attitudes and actions common to the numerous forms which manifest themselves by colicky pain, there will always be present some special characteristic symptoms which will aid us in making a correct diagnosis, and it is very essential to make a correct decision at the outset and then proceed with the proper treatment.

The first form of colic, the symptoms and treatment of which we will consider, is the nervous or spasmodic, and this form generally manifests itself some time after eating or drinking, and often after a long drive.

The pains produced are intermittent and vary in intensity, and continue from two to six hours. The abdomen is retracted, respiration accelerated, pulse is quickened, but presenting fullness under pressure, and continues so unless approaching a fatal termination, when it becomes small, hard and thready. When exercised, motion is not painful and in some cases seems to afford relief. The pains and paroxysms in spasmodic colic are very severe, and the animal during the spasms will throw himself down with great violence and quickly jump up and at once commence pawing or moving about in the stall. Then there will be a cessation of the pain and the animal seem relieved; but in from five to ten minutes there will be a return of the spasm and the animal will again undergo violent exertions. The temperature is always normal or but slightly increased if the animal has been suffering for a length of time. The abdominal muscles are frequently retracted. Care should be taken to discriminate between spasmodic colic and peritonitis or inflammation of the bowels; in spasmodic colic the pains are not continuous and are more violent. There is but very slight increase in temperature, while in peritonitis the temperature is always increased. Spasmodic colics are generally attributable to the local irritation of the ingesta; it may arise from indigestion either from excess in quantity, or from the indigestible quality of the food. It frequently follows exposure to cold or fatiguing exercises, but these causes probably act by occasioning indigestion. Certain foods with particular horses will give rise to spasmodic colic in consequence of an idiosyncrasy which is inexplicable.

This form of colic, although attended with great and protracted suffering, is not considered fatal. It is one of those violent functional affections from which recovery takes place rapidly. It has no tendency to eventuate into inflammation or any other disease, but in proportion to its duration it is followed by fatigue and weakness, and more or less abdominal soreness may remain; and should the attacks be repeated in the same animal he will become weak and emaciated, and if they be not checked or relieved he will die from exhaustion during an attack.

The treatment in spasmodic colic has two objects: first, to check the spasm, and, second, to relieve the pain; and thus prevent undue exhaustion. Chloral hydrate has been found the most efficacious medicine and presents the best results; it should be given in the form of a ball composed of chloral hydrate, one ounce, pulverized lobelia, one drachm, and sufficient honey or simple syrup added to form a mass. This in most cases will be found to relieve, but should the pains continue for an hour or more another ball composed of half the quantity given above, or a drench, which the writer has found to act with excellent results in those that are persistent, composed of chloral hydrate, one-half ounce, and opei tincture, one ounce, in about a pint of water. In most cases the administration of the ball alone will, in about fifteen minutes, relieve the pains and produce quiet and peaceful sleep.

The tympanitic form of colic is not difficult to diagnose and is recognized by the swelling and tympanitic condition of the abdomen. It first presents the usual symptoms of all colics, namely uneasiness, pawing, a desire to lie down, when if the ear is placed to the right flank the formation and passage of gas from one portion of the bowels to another may be heard, and soon there will be noticed a distention of the abdomen, and with the continued formation of gas the flanks and abdomen become hard, resisting, and more or less resounding on percussion. The animal exhibits great pain and assumes many positions, at times throwing himself down with great violence; and it is during these efforts that complications arise which prove fatal; such as the rupture of some portion of the intestines or stomach, laceration of the diaphragm or distention, and rupture of some of the larger blood-vessels, producing internal hemorrhage.

This form of colic is due to indigestion with fermentation. The stomach and bowels are torpid, the food undergoes fermentation and gives rise to the accumulated gases. Again, other causes are foods that are of poor quality or have become heated or fermented. Water taken into the stomach while the animal is warm or exhausted after violent exertion, or over-loading the stomach in cases where the animal gains access to the feed-box, frequently give rise to this form of colic. It is common in cribbers and is an evidence of the bad condition of their digestive apparatus. Frequently the formation of gas takes place in the stomach and the distention of the bowels is not so apparent. This condition may be recognized by the regurgitation of the gases in the throat.

In the treatment of this form of colic prompt action is very essential. If the distention is great, relief should at once be given by recourse to the trocar and canula; this is an instrument composed of a silver tube or canula about eight inches long and one-quarter of an inch in diameter, into which is inserted a round steel rod or trocar, one end of which is pointed and the other end inserted into a handle, the pointed end projecting beyond the canula about half-an-inch. This instrument then is inserted through the skin and into the large intestine called the colon; the point for inserting is on the right flank and is at the point of an angle formed by drawing two diagonal lines downwards, one from the external point of the hip and one from the last rib, and the point at which they meet will be the point at which a puncture can be made. When the trocar and canula have been inserted almost to the full length the trocar is withdrawn and the canula allowed to remain, when the gas contained will escape and with such force as to produce a distinct whistling sound.

To relieve the gas that has formed in the stomach and the small intestines, four or five balls composed of six drachms each of pulverized wood-charcoal rolled up dry in tissue-paper will act to absorb it. Also give to the animal a drench composed of:

Opei Tr	2 ounces,
Belladonna Tr	2 drachms,
Ammonia Spr. Aromat	1 ounce,
Soda Bi. Carb	4 ounces,

to which add about a pint of water; and should the horse not gain entire relief in one or two hours, the above drench may be repeated. Should the distention continue and the animal seem greatly distressed and respiration quickened, he should then be again punctured with the trocar and canula. There should be no hesitancy in puncturing. There is but one unpleasant result that may follow, which is the formation of a small abscess at the point where the puncture was made, and that should be opened at once with a sharp scalpel and bathed with hot water several times a day. But this seldom follows, especially if care is taken to withdraw the canula quickly when the flow of gas ceases.

The other form of colic which we will consider is that due to impaction of the ingesta at some portion of the intestine; this impaction may occur at any portion, either in the large or small intestines, or even the stomach.

The symptoms are not difficult to distinguish and the history of the case will be an important factor in the diagnosis.

The animal is dull, refuses food and sometimes water, paws the bedding and occasionally lies down, remaining for a time and then rising to commence pawing again. The respiration in the first stages is not accelerated, but if the animal continues to suffer two or three days it becomes quickened. The pulse is quickened and full at the commencement, but if the impaction continues it becomes hard and thready. The history of the case will reveal the fact that the animal has not defecated freely, and has been dull and dejected. The symptoms are not violent as in spasmodic colic nor is there any tympanitis as in wind colic.

The etiology of this form of colic is in most cases obscure. In some cases it is due to over-feeding and not sufficient work. Horses that are convalescing are permitted to eat large quantities of hay, and perhaps their bedding is affected with it.

Animals that are debilitated either from age, overwork or sickness, lack force and tonicity in the peristaltic action, and the result is impaction of the food at some weak point of the bowels, and to this impacted ingesta is added all the food that the animal may take before showing distress. The treatment should always be heroic. Purgatives should be given at first in the form of raw linseed oil, one and one-half pint, and give injections of warm water and soap containing two ounces of the tincture of barbadoes aloes every three hours. Should the bowels not show any response in from ten to twelve hours, a physic ball should be given composed of aloes barb. pulv., one ounce, nux vomica pulv., one drachm. And a nerve tonic in the form of tincture of nux vomica, one ounce, tincture belladonna-leaf, two ounces, water sufficient quantity to make eight ounces, and give an ounce every three hours. If the animal is weak and seems exhausted, a drench of one ounce of alcohol and eight ounces of water should be given every four hours. The principal object should be to endeavor to induce an action of the bowels, and when the diagnosis of impaction is made all efforts should tend to promote the action of the bowels.

The prognosis is always doubtful and most cases of impaction are very persistent and frequently never respond to treatment. The animal will continue to suffer from four to eight days and then die.

There are other conditions which give rise to colicky symptoms, but from the fact that they are not of frequent occurrence in our railroad stables, and the time necessary to describe them being beyond our limit, we will simply mention them and advise that, in cases of colic which present symptoms of an unusual and remote character, a competent veterinary surgeon be employed to treat them.

Invagination, or the condition where one portion of an intestine is pushed into a portion adjacent, is either due to a lack of peristaltic action in one portion or to the calibre of a portion of the intestines becoming enlarged, and the part next to it being received into it. This condition when it does occur presents persistent colicky pains and frequently terminates fatally.

Foreign bodies taken into the stomach by the mouth, producing irritation or the formation of calculi, give rise to colicky pains that are often obscure and difficult to diagnose.

The various forms of hernia, either scrotal, inguinal or rectal, will produce colicky symptoms requiring the prompt attention of a competent veterinary surgeon.

Special Notices.

The attention of our readers is respectfully called to our department of special notices as a means for making announcements of street railway property for sale, or wanted in the street railway line, positions wanted, or men wanted to fill positions on street railways.

The results to those who have used this column, have been very satisfactory, and we desire to make it a general medium of exchange for such information. For rates see department.

American Street Railway Association.

The next session of the American Street Railway Association will be held in Cincinnati on the third Wednesday in October. Subjects for discussion: Causes, Prevention and Settlement of Accidents; Sanitary Condition of Street Cars; Ventilation, Lighting and Care of Cars; Progress of Cable Motive Power; Progress of Electric Motive Power.

If you want to buy or sell street railway property, want a position, or want a man for a position on a street railway, advertise under "special notices" in the STREET RAILWAY JOURNAL.

Notes and News.

Boston, Mass.

The Highland Street Railway has equipped ten open cars with the Chaplin Roller Bearing, making in all thirty sets of this bearing in use on that road.

Buffalo, N. Y.

The Buffalo City Railway Co., at its annual meeting, unanimously re-elected its officers and directors.

Bridgeton, N. J.

A new passenger street railway is contemplated. Everything is favorable toward the movement and work will probably soon commence. Oberlin Smith, of Bridgeton, is one of the interested parties.

Brooklyn, N. Y.

THE BROOKLYN RAILWAY SUPPLY CO., 37 Walworth street, Brooklyn, N. Y., are at work on a new shop 35×100 which will afford them further facilities.

All the conductors and drivers of the Brooklyn City Railroad Company who did not report for duty at the regular hour on the morning of the last general "tie up," June 6th, lost their cars, or have been put on the extra list. No consideration will be shown them by the company. President Hazzard said:—"No man who lost his car by not being on hand on Sunday morning will get it again with my consent. The men who tied us up on Saturday need not expect any consideration from this company. The understanding with the employees made some time ago is no longer binding. It was broken by the men on Saturday. Those portions of the agreement that I consider just will continue in force, but there are other parts that I have always held to be extravagant, and these certainly will not remain in force."

Chicago, Ill.

THE NORTH CHICAGO PASSENGER RY. CO. has received from the City Council the right to "make all needful and convenient curves, trenches, excavations, and sewer connections, and to place convenient cables and machinery on any streets upon which its railways are now constructed." It is alleged that twenty members of the Council received $127,000 to pass the ordinance.

Denver, Col.

THE DENVER TRAMWAY COMPANY has been incorporated. Capital stock, $500,000. Rodney Curtis, and others, incorporators.

Battle Creek, Mich.

THE BATTLE CREEK STREET RAILWAY COMPANY has been incorporated. Capital stock $35,000. H. H. Brown, Lucius Clark, South Bend, Ind., and H. H. C. Miller, Chicago, Ill., incorporators.

Detroit, Mich.

The Detroit City Railway is adding several new cars to its equipment.

THE HIGHLAND PARK RAILWAY COMPANY will build an electric road from the Woodward avenue street car line to the new exposition grounds. W. A. Jackson, 24 Newberry and McMillan Building, Detroit, is interested.

Gloucester, Mass.

The Gloucester Street Railway is open for business.

Haverhill, Mass.

A new street railway company, to be called Pentucket Railway, is being organized with a capital stock of $40,000.

Kissimmee, Fla.

The Town Council have granted a right of way through the streets of Kissimmee to the Florida Midland Railroad.

Lowell, Mass.

Thomas Nesmith and others are about to build a new street railway here. They are at present looking up the merits of the girder and other systems of laying rails.

Los Angeles, Cal.

THE CITY AND CENTRAL RAILROAD COMPANIES, controlled by I. W. Hellman and E. F. Spence respectively, under a new arrangement, pool their earnings, and both roads are under one management. President, I. W. Hellman; Secretary, Fred. Harkness; Superintendent, William Hawks. There are three divisions of the road, as follows:

Olive Street Division (One Collection)—100 horses, 13 cars, 10 regular cars, 3 extras; length of road, 4½ miles; time for round trip, 80 minutes; 10 regular drivers, 3 extras, 8 men in barn, 2 blacksmiths, 2 car builders, 1 teamster, 1 trackman.

Central Division (One Collection)—54 horses, 12 cars, 9 regular drivers, 3 extra drivers, 7 hostlers, 2 car builders, 1 blacksmith, 1 teamster, 1 hostler, 4 miles long.

Boyle Heights Division—13 horses, 4 cars, 3 drivers, 1 extra driver, 1 man in barn, 3 miles of road.

A bridge is being built over the Los Angeles river, to cost $6000. When the bridge is completed, through cars will run to Evergreen Cemetery, avoiding the inconvenient change at the stables.

The rails for the extension of the Central Division have been distributed along Pearl and Ninth streets to a point beyond Alvarado street. The work of constructing this extension will be commenced shortly.

The City Division is to be extended shortly to East Angeles, running up Downey avenue and up Chestnut and Hough streets, and four blocks up Hough street to Daly street.

At the present terminus of the Central Division on Sixth street are located the main barn and shops. Several cars are being overhauled, cut down or repaired, and a new one is being built. A new car is being built at the Olive street shop also.

A double track is to be laid this summer from the intersection of Main and First streets to Agricultural Park. At Washington Gardens one track will keep straight on down Main street, about one mile to Jefferson street, and thence west on Jefferson street, to Figueroa, where it will meet the other track, which will follow the present course. At the intersection of Jefferson and Figueroa streets the double service will be resumed to the park.

William Lacy and others have a franchise for a railroad along Mission street in front of the County Hospital, which will be built in a short time.

A number of property owners met May 25th, at the W. R. Burke's place, and subscribed $2230 toward the extension of the City Division along Vermont Avenue. Messrs. Tarble, Bennett, McCreary, Simons Hall, Burke and Sinsabaugh were appointed a committee to solicit subscriptions to make up the balance of $6000, for which Mr. I. W. Hellman promises to build the extension within ninety days from the date the subscription is completed.

Col. A. H. Wands, for a number of years connected with the California St. Ry. Co. of San Francisco, meeting with a serious accident resigned his position there and came to Los Angeles for his health. The Temple Street Cable railway was nearing completion and they made the Colonel an offer to take charge of it, and he has consented. The road is now in perfect running order.

Macon, Ga.

The street railway has been extended recently across the Ocmulgee river to East Macon, also to South Macon, both of which sections are growing rapidly. Macon is attracting the attention of capitalists by its splendid streets and beautiful park and commercial advantages. It is one of the foremost cities in the Empire State of the South.

Melbourne, Australia.

The cable system of motive power has been adopted by the promotors of the street railway enterprise of this city. And thirty-four miles of track will be laid.

Michigan City, Mich.

The Michigan City common council have granted a franchise to a company to build a street railway in that city. Jeremiah Knight and John Lyons of South Bend, Ind., are pushing the enterprise.

Minneapolis, Minn.

No street cars were running June 20th. Superintendent Lowry offered to allow the use of seats within certain specified limits on each line, but the drivers demand unconditional return to the privilege of sitting down at will. Mr. Lowry now proposes to fill the strikers' places and appeals for police protection in running cars. Mayor Ames is not disposed to interfere.

Middletown, Conn.

In our last issue the types made us say that the Middletown Horse Railway Co. were using the "Wells" fare-box, instead of the "Wales" fare-box.

Newton, Mass.

The street railway committee of the Massachusetts Legislature have reported a bill to incorporate the Newton Street Railway Company, with $50,000 capital and authority to employ the electric system of motive power, and to lay tracks from the Boston & Albany R.R. in Newton Center, north through Institution Avenue to Beacon Street, thence west to Walnut Street, thence north to Washington Street and Auburn Street to Auburndale; also from this corner

east through Washington Street to Newton Corner; also from Bowers Street in Newtonville to connect with the proposed line on Walnut Street. The steam plant for running the dynamo electric machines will be installed by the Jarvis Engineering Co. of Boston, and will include power enough to run an electric light plant. The engines will be of the Armington & Sims Co. make, and will belt direct to the dynamos, thus saving the power usually wasted in running shafting. The boilers will be made of Otis steel and set with the Jarvis Patent Boiler Setting to burn coal screenings for fuel. In running an electrical railroad, the principal item to be considered is the cost of power. Most of the electric railroads started thus far, have put in long stroke engines, and use lines of shafting. The boilers have been set with plain settings, and used the highest cost fuel. The Jarvis Engineering Co. have erected nine-tenths of all the electric light plants in the New England States, and it is to their credit that every plant they have installed is paying dividends. With improved engines, and boilers set to burn the lowest cost fuel, it is claimed that the cost of running street railroads as compared with horses will show an economy of 50% or more. The prospects of transmitting power by electricity to run street cars are to-day in a more advanced state than electric lights were in 1878.

New York, N. Y.

THE HOUSTON, WEST STREET & PAVONIA FERRY R. R. Co. elected the following directors June 8: John Lowry, James H. Woods, Henry Thompson, Solomon Mehrbach, W. H. Kemble, D. B. Hasbrouck, C. E. Warren, P. A. B. Widener, Thomas F. Ryan, Henry Steers, Clay Kemble, W. S. Elkins and Ebenezer Beadleston. These gentlemen are understood to represent the Philadelphia Syndicate.

Samuel Raynor & Co., New York, have facilities for producing one million envelopes per day. Their production includes street railway change envelopes.

THE BROADWAY AND SEVENTH AVENUE R. R. Co., at its annual meeting, June 14th, elected a new board of directors. The 7,882 votes cast were cast unanimously for the following ticket:

Charles Banks, William B. Dinsmore, Bernard M. Ewing, John H. Murphy, Thomas J. O'Donohue, Thomas F. Ryan, John J. Bradley, William L. Elkins, Charles F. Frothingham, Solomon Mehrbach, W. H Rockwell, Henry Thompson, and Peter A. B. Widener. The old Board were:

James W. Foshay, Thomas B. Kerr, John H. Murphy, S. Sidney Smith, M. M. White, John J. Bradley, Jacob Sharp, Alfred Wagstaff, George N. Curtis, Harrison D. Kerr, George Law, William Henry Hays, and A. C. White. Only J. J. Bradley and John H. Murphy were reelected.

The new Board elected Henry Thompson, President; Thomas F. Ryan, Secretary and Treasurer, and the only new directors who were not present were Wm. B. Dinsmore and Charles Banks. Mr. Dinsmore is President of the Adams Express Company. Mr. Banks is a member of the firm of Banks Brothers, the law publishers, Widener and Elkins are of the Philadelphia syndicate. Henry Thompson is President of the Avenue C line of horse cars, and of the Metropolitan Railroad Company, and represents the Philadelphians in this city. Charles F. Frothingham is a broker. Solomon Mehrbach is a horse dealer and politician. Secretary Ryan is a stockholder, and a prominent Tammany man. Thomas J. O'Donohue is a brother of Joseph J. O'Donohue, and was once in the tea business. W. H. Rockwell is a physician and Bernard M. Ewing is a dry goods man. Mr. Bradley was once a State Senator. He keeps a livery stable, and is a brother-in-law of Peter B. Sweeny.

Not only the horse car tie-up is over, but the Empire Association has owned up to its defeat on the Third avenue, and the Third avenue strike is declared over. The local assemblies were notified on June 5th that they will no longer be called on for contributions to support the strikers. There were 1,300 of these strikers originally, but their numbers have dwindled by the defection of conductors and others till there are now 1,053 out of work. They must shift for themselves. The Third avenue people say that none of them are wanted back now, and that in case of vacancies in the future union men, if they apply, will be likely to be discriminated against. The general tie-up was ordered off as it was ordered on, without explanations. As nearly as can be made out it was originally ordered to last twenty-four hours only, and was intended to demonstrate to the other companies that the failure of the Third avenue strike has not broken down discipline in District Assembly 75. Executive Committeeman Andrew D. Best, who came back from Cleveland June 5th, is reported as declaring that under the action of the General Assembly upon strikes and boycotts, the tie-up was unworthy of the support of the order. It was ordered, anyhow, just in time to prevent several of the roads from following the example of the Third avenue road and going to war with the strikers. It has cost many of the men their places as it is.

Ogdensburg, N. Y.

The new street railway at this place is being built by Haines Brothers of New York City. It will be about five miles long.

Pawtucket, R. I.

A stock company is being organized for the purpose of constructing a street railroad. Arnold B. Chace, Valley Falls, and L. B. Darling, Pawtucket, are interested in the movement.

Philadelphia, Pa.

THE HALE & KILBURN MANUFACTURING Co. have just issued a beautiful new illustrated catalogue of their productions in the way of car seats, springs, etc. They have a number of contracts for car seating, among which is one from the Third Avenue line of New York, for 25 cars. The "spring edge" style of seat, recently furnished by them for the Broadway line, is beginning to be adopted by other roads. The company reports that the strike which has just ended in their works did not affect in any way their railroad business, but was confined entirely to other departments.

MESSRS. LYNN & PETTIT, 707 Market street, are enlarging their plant for the manufacture of cocoa car mats.

Providence, R. I.

THE TOCKWOTTEN ST. LINE of the Union Railway Company running to East Providence, about 3 miles in length, was completed and put in operation this Spring. It is equipped with the finest cars and live stock, and like every other detail of the Union system, is probably not surpassed in this country.

Pittsburg, Pa.

The Union street carmen June 7th formally declared a boycott against the Eagle Avenue and Oakland Street Railway companies, all efforts for a compromise having failed. Master Workman Evans of the Knights of Labor said he thought that the non-union men would not return to work, but they did. The Executive Committee of the Street Car Assembly issued a circular calling upon all workingmen and their families to boycott the roads. A few cars are running, but they stop at 6 o'clock in the evening.

The Oakland Street Car Company entered suits in the United States court June 8th against Richard Campbell, Master Workman of the Street Car Assembly, Knights of Labor, and Messrs. Edward Woods, Henry Gamble, and Robert Eberhardt, charging them with conspiracy.

The accused were in the employ of the company and struck recently for the twelve-hour schedule. President Gordon of the company alleges that they conspired to prevent the running of cars, and interfered with the men who wanted to work. Woods and Campbell were arrested and held for a hearing in $500 bail each. Warrants are now out for Gamble and Eberhardt.

There is a project on foot to extend the Second Avenue street car line to Hazlewood.

Rockland, Me.

THE COBB LIME COMPANY will furnish information in regard to a new cable road to be built by Rockland capitalists.

Santa Ana, Cal.

Schoder, Johnston & Co. have received the contract to furnish 250,000 lbs. of 16-pound steel rails for the new street railroad to join Santa Ana, Orange and Tustin City. Work will begin on the road at an early day.

Salem, Mass.

The Naumkeag Horse R.R. is having built new J. G. Brill & Co. cars equipped with the Bemis gear.

Salina, N. Y.

THE WOODLAWN AND BUTTERNUT STREET RAILWAY COMPANY has been incorporated

Capital stock, $30,000. Peter Kappesser and others incorporators.

Stillwater, Minn.

THE STILLWATER STREET RAILWAY COMPANY has been incorporated. Capital stock, $100,000. S. Matthews, and others, incorporators.

St. Louis, Mo.

The Brownell & Wight Car Co., St. Louis, are building cars equipped with the Bemis gear for McGavock & Mt. Vernon H. R R. of Nashville, Tenn.

Troy, N. Y.

Several months ago three bell punches were stolen from the stables of the Troy and Lansingburgh Horse Railroad Company, and ever since then the directors of the road have been looking for the thieves. For several weeks the receipts have been falling off and the company spent a good sum of mony endeavoring to find the whereabouts of the missing punches. They employed several Pinkerton men and many spotters.

June 2d one of Pinkerton's men, with Capt. Hodgson of the Cohoes police, arrested Eugene Lee and William Cooper, conductors on the Blue line, at a game of base ball which was being played on Adams Island between members of the Red and Blue lines, and in which they participated. They were locked up in the Cohoes police station on suspicion, and their room in the Miller House was searched. Two of the missing punches were found in a trunk, and charges of robbery were made against the prisoners. They waived an examination in order to retain counsel, and their trials will come off at once.

The men got possession of the punches in a roundabout way, they having been handed down through several persons. After getting the punches they began to swindle the company in a systematic manner. It is thought that they each robbed the company of about $1,000. The company intends to make an example of the two men, who are old conductors on the road. Lee was at one time employed to break in new conductors and was always considered a most trustworthy man.

J. M. Jones' Sons, West Troy, N. Y., are building cars for the following roads using the Bemis gear:—Union of Providence; Citizens', Worcester; Fitchburg (Mass.) Horse.

Fare Collector.

The Pavonia Street Railway Company of Jersey City have placed upon several of their cars a new fare collector that is made by Lewis & Fowler of Brooklyn, N. Y. It consists of a U shaped piece of brass with the uprights of the U but slightly higher than the thickness of a five cent nickel or a twenty-five cent silver piece. On the outside there are two brass strips riveted so that when placed on edge a trough is formed that will hold a coin on edge and yet allow it to be seen. This trough is backed by a strong piece of bar iron, and the whole placed on an incline leading from the back of the car down one side and around a corner to a fare box near the driver.

On the posts of an open car or between the windows of a close car, there are small brass fare receivers, so that the passenger may drop the fare into them without leaving the seat. The openings in these receivers are so small that only one coin can be dropped in at a time, so that there is no danger of clogging the trough.

When a coin is dropped in, it rolls on its edge to the fare box and is dropped into the strong box by the driver, in the usual way.

The collector is giving excellent satisfaction where it is in use, and two-horse open cars, that will carry sixty passengers, are run without a conductor. It is stated, too, that where this collector is in use, passengers, who are regular travelers, make it a point to have their exact fare in readiness, so that less change is required of the driver. We are told by disinterested parties that in commission hours when the cars are crowded, the drivers do not average making change more than four or five times to the trip.

Uniforms for Conductors.

Every street car passenger has at times experienced difficulty in recognizing the conductor, especially on occasions when the rear platform was crowded with passengers; and on those roads not using the bell-punch or other form of fare register—they are not many, it is true—there is an uncertainty in the payment of fare as to whether it has gone to the right personage. The average conductor dresses himself in pretty much any manner he pleases, and there is even a great diversity in the style of hats worn. He is hidden behind a pleasing impersonality which more than once is a cloak for some open violation of the rules.

Common-sense calls for the conductors of street-cars to be uniformed in some manner, and also the drivers, though the importance is not so great in their case. The expense of such uniforming need not be great, nor need it extend to the entire clothing. As a rule a coat alone, if sufficiently distinctive, will answer the purpose, or even a uniformed cap provided it be conspicious in shape and style, and be plainly marked with the word "Conductor." The public has a right to know the company's servants at sight, without the necessity of indulging in guess-work and running the risk of offending some over-nice masculine passenger who would show marked disapproval at being taken for the official in question.—F. Martin Gayler, in R. R. Journal.

[On the horse-car lines of Boston and vicinity, and of several other New England cities, conductors wear distinctive caps.—EDS.]

STREET RAILWAY STOCK QUOTATIONS.

Corrected by H. L. GRANT, 145 Broadway, N. Y. City.

New York Stocks.	Par.	Amount.	Period.	Rate.	Date.		Bid.	Asked.
Bleecker St. & Fulton Ferry	100	900,000	J. & J.	¾	January,	1886	28	30
1st mort	1,000	700,00	J. & J.	7	July,	1900	113	116
Broadway & Seventh avenue	100	2,100,000	Q.—J.	2	January,	1886	280	290
1st mort	1,000	1,500,000	J. & D.	5	June,	1904	108	112
2d mort	1,000	500,000	J. & J.	5	July,	1914	108	109
Broadway Surface Guaranteed	1,000	1,500,000	J. & J.	5	July,	1924	110	112½
Additional	1,000	1,000,000	J. & J.	5	July,	1905	106	107
Brooklyn City—Stock	10	2,000,000	Q.—F.	3½	February,	1886	205	210
1st mort	1,000	800,000	J. & J.	5	January,	1902	106	110
Brooklyn Crosstown	100	200,000	A. & O.	4	October,	1885	165	175
1st mort bonds	1,000	400,000	J. & J.	7	January,	1888	105	112½
Central Park North and East river	100	1,800,000	Q.—J.	2	January,	1886	141	142
Con. mort. bonds	1,000	1,200,000	J. & D.	7	December,	1902	122	125
Christopher & Tenth	100	650,000	F. & A.	2½	February,	1886	132	138
Bonds	1,000	250,000	A. & O.	7	October,	1898	110	116
Central Crosstown	100	600,000	Q.—F.	1¾	January,	1886	162	165
1st mort	1,000	250,000	M. & N.	6	November,	1922	114	115
Dry Dock, East B'way & Battery	100	1,200,000	Q.—F.	2	February,	1886	202	206½
1st mort consol	500	1,900,000	J. & D.	7	June,	1893	114	116½
Scrip	100	1,200,000	F. & A.	6	August,	1914	106	107
42d & Grand St. Ferry	100	748,000	Q.—F.	4	February,	1886	255	260
1st mort	1,000	236,000	A. & O.	7	April,	1893	111	116
42d St., Manhattan & St. Nich. av.	100	2,500,000					45	50
1st mort	1,000	1,200,000	M & S.	5		1910	110	112
2d mort. In. bonds	1,000	1,200,000	J. & J.	6		1915	70	73
Eighth Avenue—Stock	100	1,600,000	Q.—J.	2½	January,	1886	240	265
Scrip	100	1,000,000	F. & A.	6	August,	1914	105	110
Housten, West St. & Pavonia Ferry	100	1,000,000	Q —F.	2	August,	1885	150	156
1st mort	500	250,000	J. & J.	7	July,	1894	112	113
Second Avenue—Stock	100	500,000	J. & J.	5	January,	1886	205	210
1st mort	....	1,862,000	M. & N.	5	November,	1909	108	110
Consol	1,000	550,000	M. & N.	7	May,	1888	106	108
Sixth Avenue	100	1,050,000	M. & S.	5	September,	1885	200	210
1st mort	1,000	500,000	J. & J.	7	July,	1890	112	116
Third Avenue—Stock	100	2,000,000	Q.—F.	4	February,	1886	315	330
1st mort	1,000	2,000,000	J. & J.	7	January,	1890	110	112
22d St.—Stock	100	600,000	F. & A.	4	November,	1885	280	300
1st mort	1,000	250,000	M. & N.	7	May,	1893	110	113
Ninth Avenue	100	800,000		3	September,	1885	138	145
Chicago St. Railway	100						299	325
BOSTON STOCKS.								
Charles River								55
Cambridge								85
Metropolitan								97½
Middlesex								118
South Boston								83
Highland								141
Lynn and Boston								160
Somerville H. Road								59½
Boston and Chelsea								60½

Directory of Manufacturers and Dealers in Street Railway Appliances, and Index to Advertisers.

OFFICIAL LIST OF THE STREET RAILWAYS IN THE UNITED STATES & CANADA.

Compiled from data furnished the editors of "The Street Railway Journal," by the officers of the various roads.

ABBREVIATIONS—m, miles; g, gauge; lb r, pounds rail to the yard; c, cars; h, horses; mu, mules.

Officers' addresses are the same postoffice as the company unless otherwise specified.

AKRON, O.—Akron St. Ry. & Herdic Co. 2¼ m, 6c, 31 h. Pres. Ira M. Miller, V. Pres. James Christy, Treas. B. L. Dodge, Sec. F. M. Atterholt, Supt. John T. Metlin.

ALBANY, N. Y.—Watervliet Turnpike R.R. Co. 7½ m, 26-45 lb r, 27 c, 143 h. Pres. Chas. Newman, Sec. & Treas. P. Way, Supt. M. C. Foster.

The Albany Ry. 10 m, 4-8½ g, 33-47 lb r, 51 c, 194 h. Pres., Supt. and Treas. John W. McNamara, Sec. Jas. H. Manning. Offices 3 & 5 N. Pearl St.

ALLENTOWN, PA.—Allentown Pass. R.R. Co. 3¾ m, 6 c, 22 h. Pres. Samuel Lewis, Treas. & Sec. Joseph E. Balliet, Supt. Russel A. Thayer.

ALTON, ILL.—Alton & Up. Alton Horse Ry. Co.

ALTOONA, PA.—City Pass. Ry. Co. of Altoona. 3½ m, 5-3 g, 43 lb r, 17 c, 38 h. Pres. John P. Levan, Sec. & Treas. L. B. Reifsneider, Supt. John J. Buch.

AMSTERDAM, N. Y.—Amsterdam St. Ry. Co. 1½ m, 4-8 g, 25 lb r, 3 c, 10 h. Pres. Henry Herrick, Treas. David Cady, Sec. M. L. Stover. Leased to Jas. R. Snell.

APPLETON, WIS.—Appleton Electric St. Ry.

ASHTABULA, O.—Ashtabula City Ry. Co. 4 m, 4-8½ g, 40 lb r, 9c, 60 h. Owner & Prop. Jno. N. Stewart.

ATCHISON, KAN.—Atchison St. Ry. Co. 5½ m, 4-8½ g, 20-30 lb r, 19 c, 60 h. Pres. & Gen. Man. J. H. Beeson, Treas. H. M. Jackson, Sec. J. P. Adams.

Gate City St. R.R. Co. 2¾ m, 4-8½ g, 16 lb r, 7 c, 26 h. Pres. L. B. Nelson, V. Pres. L. DeGive, Sec. & Treas. John Stephens, Solicitor, A. Remharat.

Metropolitan St. R.R. Co.

West End & Atlantic R.R. Co. 2m, 4-8½ g, 20 lb r, 6 c, 34 mu. Pres. J. D. Turner, V. Pres. T. L. Langston, Sec. & Treas. B. H. Brumhead, Man. & Pur. Agt. Jno. S. Brumhead.

ATLANTA, GA.—Atlanta St. Ry. Co. 13 m, 4-8½ g, 42 lb C. B. rail, 40 two h cars, 150 horses. North Atlanta Line 1 m. Decatur St. Line 1.50 m. Marietta St. Line 2.50 m. McDonough St. Line 1.50m. Peachtree St. Line 2.50 m. West End Line 2.50 m. Whitehall St. Line 1.50 m. Pres. Richard Peters, Sec. & Treas. J. W. Culpepper, Supt. & Purch. Agt. E. C. Peters. Office, 49 Line St.

ATLANTIC, N. J.—Atlantic City Ry. Co.

AUBURN, N. Y.—Auburn & Owasco Lake R.R. Co. 1¼ m, 4-8½ g, 28-30 lb r, 4c, 13 h. Pres. D. M Osborne, Sec. & Treas. C. B. Kosters, Supt. B. F. Andrews.

East Genesee & Seward Ave. Ry. Co. 2½ m, 4-8½ g, 30 lb r, 6 c, 25 h. Pres. David M. Osborne, Sec. & Treas. C. B. Kosters, Supt. B. F. Andrews.

AUGUSTA, GA.—Augusta & Summerville R.R. Co. 6 m. 5 g, 30 lb r, 13 c, 42 h. Pres. Patk Walsh, Supt. Edw. G. Mosher.

AURORA, ILL.—Aurora City Ry. Co. 5 m, 4-8½ g, 28 lb r, 7 c, 1 h, 30 mu. Pres. H. H. Evans, V. Pres. S. W. Thatcher, Sec. A. J. Hopkins, Treas. E. W. Trask, Supt. I. B. Chattle.

BABYLON, N. Y.—Babylon Horse R.R. Co. 1½ m, 4-9 g, 60 lb r, 3 c, 3 b. Pres. W. F. Norton, Sec. Jos. M. Sammis, Treas. John R. Reid, Supt. David S. S. Sammis.

BALTIMORE, MD.—Baltimore & Powhatan Ry. Co. 6 m, 5-4½ g, 4 c, 17 h. Pres. & Treas. E. D. Freeman, Sec. R. B. Clark, Supt. I. M. Ketrick.

Baltimore City Pass. Ry. Co. 40 m, 5-4½ g, 46 & 47 lb r, 160 c, 1076 h. Pres. Oden Bowie, Treas. John Boigiano, Sec. S. L. Bridge.

Baltimore Union Pass. Ry. Co. Supt. T. C. Robbins.

Baltimore & Catonsville Ry. Co. 6 m, 5-4½ g, 35 lb r, 15 c, 51 h. Pres. J. C. Robbins, Supt. & Pur. Agt. G. W. Appleby. Office Pratt St. & Frederick Av.

Baltimore & Halls Spring R.R. Co.

Baltimore & Pimlico & Pikesville R.R. Co.

Central Ry. Co. 5½ m, 5-4½ g, 40lb r, 22c, 180 h. Pres Peter Thompson, Sec. & Treas. Walter Blakistone.

Citizen's Ry. Co. 20 m, 5-4½ g, 46 lb r, 34 c, 360 b. Pres. Jos. S. Hagarty, Treas. Wm. S. Hammersley, Supt. C. C. Speed.

Monumental City Ry. Co.

North Baltimore Passenger Ry. Co. 11 m, 5-4½ g, 45 lb. r, 72 c, 400 h. Pres. Jas. L. McLane, Treas Dan'l J. Foley, Sec. Thos. J. Wilson.

People's Ry. Co. 5¼ m, 5-4½ g, 42-45 lb r, 30 c, 200 h. Pres. R. E. Hamilton, Treas. Gustavus Ober, Sec., Supt. & Pur. Agt. Wm. A. House, jr. Office Fort Ave. & Johnson St. Soon move to Druid Hill ave.

York Road R.R. Co.

BATTLE CREEK, MICH.—Battle Creek Ry. Co. 5 m, 3 6 g, 28 lb r, 8 c, 18 h, 3 mu. Pres. Geo. Det-J. White, V. Pres. H. H. Brown, Sec. Chas. Thomas, Supt. John A. White, Gen. Man. J. W. Hahn.

BAY CITY, MICH.—Bay City St. Ry. Co. 7¼ m, 4-8½ g, 18 lb r, 13 c, 35 h. Pres. James Clements, Treas. Wm. Clements, Sec. Edgar A. Cooley.

BEAVER FALLS, PA.—Beaver Valley St. Ry. Co. 3 1-10 m, 5-2½ g, 38 lb r, 8 c, 32 h. Pres. M. L. Knight, V. Pres. Col. J. Weyand, Sec. & Treas. J. F. Merriman, Supt. L. Richardson.

BELLAIRE, O.—Bellaire St. R.R. Co.

BELLEVILLE, ONT., CAN.—Belleville St. R.R.

BELLVILLE, ILL.—Citizen's St. Ry. Co. 1¼ m, 5 c. Pres. D. P. Alexander, Man. & Treas. H. A Alexander, Sec. J. E. Thomas.

BEREA, O.—Berea St. Ry. Co. 1¼ m, 3-6 g, 28 lbr, 2 c, 2 h. Pres. C. W. D. Miller, V. Pres, T. Chinchward Sec. & Treas. A. H. Pomeroy, Supt. A. W. Bisbop.

BINGHAMTON, N. Y.—Washington Street & State Asylum R.R. Co. 4½ m. 4 g, 16-25 lb r, 13 c, 23 h. Pres. R. H. Meagley, V. Pres. Geo. Whitney, Sec. C. O. Root, Treas. F. E. Ross, Supt. Wm. Whitney.

Binghamton Central R.R. Co. 3½ m (2¾ laid), 3 g, 28 lb r, 6 c. Pres. Geo. L. Crandall, Supt. Nelson Stow, Sec. Chas. O. Root, Treas. H. J. Kneeland. Offices 65 Court St.

Binghamton & Port Dickinson R.R. Co. 5 m, 4-8½ g, 20-30 lb r, 10 c, 23 h. Pres. Harvey Westcott, Sec. & Treas. G. M. Harris, Supt. N. L. Osborn. (Leased to Mr. Osborn). Offices 112 State St.

Main, Court & Chenango St. R.R. 5 m, 4-8 g, 40 lb r, 10 c, 25 h. Supt. & Lessee, N. L. Osborn. Offices 83 Washington St.

BIRMINGHAM, ALA.—Birmingbam St. Ry. Co. 5½ m, 4-8 g, 16 lb r, 13 c, 40 m. Pres. Geo. L. Morris, Supt., Sec. & Treas. W. H. Morris.

Highland Avenue R. R. 6¾ m, 4-8½ g, 30 lb r, 9 c, 28 h. Pres. H. M. Caldwell, Supt. W. J. Milner, Owners The Elyton Land Co.

Birmingham & Pratt Mines St. R. R. Pres. J. A. Van Hoose.

BLOOMFIELD, N. J.—Newark & Bloomfield R. R.

BLOOMINGTON, ILL.—Bloomington & Normal Horse Ry. Co. 5¾ m, 4-8½ g, 36 lb r, 10 c, 60 h. Pres. & Proprietor A. H. Moore, Sec. Edw. Sharp.

BOONE, IA.—Boone & Boonsboro St. Ry. Co. 1¾ m, 3 g, 20 lb r, 3 c, 10 h. Pres. L. W Reynolds Treas. Ira B. Hodges, Sec. and Supt. A. B. Hodges.

BOONSBORO, IA.—Twin City & Des Moines River Motor St. Ry. Co. 3 m, 3-6 g, 2 motors, 3 c. Pres. & Supt. J. B. Hodges, Treas. A. B. Hodges, Sec. S. K. Huntsinger.

BOSTON, MASS.—Highland St. Ry. Co. 19 m, 4-8½ g, 48 lb r, 187 c, 1000 h. Pres. Moody Merrill, Clerk R. B. Fairbairn, Treas. Samuel Little, Supt. J. E. Rugg.

Lynn & Boston. 34¾ m, 4-8½ g, 25-48 lb r, 114 c, 514 h. Pres. Amos F. Breed, Treas. & Sec. E. Francis Oliver, Supt. Edwin C. Foster.

Metropolitan R. R. Co. 80 m, 4-8 g, 50 lb r, 700 c, 3,600 h. Pres. C. A. Richards, Sec. H. R. Harding, Treas. Chas. Boardman. Office, 16 Kilby St.

Middlesex R.R. Co. 26 m, 4-8½ g, 50 lb r, 150 c, 700 h. Pres. Chas. E. Powers, Treas. J. H. Studley, Jr., Supt. John H. Studley. Address, 27 Tremont Row,

So. Boston Ry. Co. 13 m, 4-8½ g, 42-50-60 lb r, 193 c, 900 h. Pres. Chas. H. Hersey, V. Pres. Jas. C. Davis, Sec. & Treas. Wm. Reed, Supt. Daniel Coolidge.

BRADFORD, PA.—Bradford & Kendall R.R. Co. 1½ m, 4-8½ g, 38 lb r, 3 c, 4 h. Pres. James Brodey, Sec. N. B. Parsons, Gen. Man. & Supt. Enos Parsons.

BRENHAM, TEX.—Brenham St. Ry. Co. 2 m, 4 g. 20 lb r, 3 c, 22 mu. Pres. T. J. Pampell, Sec. John A. Randle, Treas. D. C. Giddings.

BRIDGEPORT, CONN.—The Bridgeport Horse R.R. Co. 5 m, 4-8½ g, 42 lb r, 16 c, 80 h. Pres. Albert Eamer, Sec. & Treas. F. Hurd, Supt. B. F. Lashar.

BROCKTON, MASS.—Brockton St. Ry. Co. 11¼ m, 4-8½ g, 35 lb. r, 32 c, 150 h. Pres. W. W. Cross, Treas. Z. C. Keith, Supt. H. B. Rogers.

BROOKLYN, N. Y.—The Atlantic Aveuue R.R. Co. of Brooklyn. 32½ m, (leased and owned). 4-8½ g, 50-60 lb r, 297 c, 1139 h. Pres. William Richardson, Sec. W. J. Richardson, Treas. Newbery H. Frost. Office cor. Atlantic & Third Aves.

Broadway R.R. Co. 12 m, 4-8½ g, 45-50-60 lb r, 166 c, 657 h. Pres. Edwin Beers, Sec. & Treas, Robert Sealey, Supt. Joshua Crandall. Office 21 Broadway, E. D.

Brooklyn Cross Town R.R. Co. 16 m, 4-8½ g, 40-60 lb r, 72 c, 400 h. Pres. Henry W. Slocum, V. Pres. Ezra B. Tuttle, Sec. & Treas. John R. Connor, Supt. D. W. Sullivan. Offices 585 Manhattan Ave.

Bushwick R.R. Co. 28 m, 4-8½ g, 45-50-60 lb r, 172 c, 600 h. Pres. Frank Cromwell, V. Pres. Wm. H. Husted, Treas. & Sec. S. D. Hallowell, Supt. Wm. M Morrison. Office 22 Broadway, N. Y.

The Brooklyn, Bushwick & Queens County R.R. 11 m, 4-8½ g, 42-47 lb r, 41 c, 117 h. Pres. Richard H. Green, V. Pres. James W. Elwell, 59 South St. N. Y. Sec. John D. Elwell, Treas. Wm. W. Greene.

Brooklyn City R.R. Co. 87 m, 4-8½ g, 60 lb r, 761 c, 3,045 h. Pres. William H. Hazzard, V. Pres. William M. Thomas, Sec. & Treas. Daniel F. Lewis, Asst. Sec. Francis E. Wrigley. Offices 8 & 10 Fulton St.

Brooklyn City & Newtown R.R. Co. 13¾ m, 4-8½ g, 45-60 lb r, 128 c, 419 h. Pres. Louis Fitzgerald, N. Y. City, Sec. & Treas. H. A. Schuz, Supt. H. W. Busb. Office cor. DeKalb & Central Aves.

Calvary Cemetery, Greenpoint & Brooklyn Ry. Co.

Coney Island and Brooklyn R.R. Co. 18 3-5 m, 45 lb r, 4-8½ g, 103 c, 316 h. Pres. James Jourdan, Sec. Ed. F. Drayton, Supt. William Farrell. Office cor. Smith & Huntington Sts.

Coney Island, Sheepshead Bay & Ocean Avenue R. R. Co. 2¾ m, 4-8½ g, 4 c. Pres. A. A. McClemer, V. Pres. Daniel Mone, Sec. John McMahon, Sheepshead Bay, Treas. Horace Vaikulyb. Office 16 Red Hook Lane.

Crosstown Line, Hamilton Ferry to Bridge.

Grand St. & Newtown R.R. Co. 13 m, 4-8½ g, 45-50 lb r, 72 c, 250 h. Pres. Martin Joost, Sec. & Treas. Wm. E. Horwill, Supt. Walter G. Howey. Office 129 First St.

Grand Street, Prospect Park & Flatbush R.R. Co. 11½ m, 4-8½ g, 50 lb r, 75 c, 244 h. Pres. Louis Fitzgerald, 120 Broadway, N. Y., Sec. & Treas. Duncan B. Cannon, Supt. Jno. L. Heins. Offices Franklin Ave. and Prospect Place.

Greenpoint & Lorimer St.

Prospect Park & Coney Island R. R. Co. 25 m, 45-50 lb r, 4-8½ g, 69 c, 214 h. Pres. A. R. Culver Treas. A. C. Washington, Sec. George H. Smith, Eng. Supt. R. Schermerhorn, Supt. Robert Attlesey. Offices 16 Court St. (Leased to Atlantic Ave. R. R. Co).

Prospect Park & Flatbush R.R. 3 m, 4-8½ g, 34 lb r. 70 c, 360 h. Pres. Loftis Wood, Sec. & Treas. Sam'l Parkhill, Supt. Loftis Wood. Offices 45 Broadway.

South Brooklyn Central R.R. Co. 8½ m, 4-8½ g, 60 lb r, 42 c, 192 b. Pres. Wm. Richardson, Sec. Wm. J. Richardson, Treas. N. H. Frost, Supt. James Ruddy. Offices, Atlantic & 3d aves.

The New Williamsburgh & Flatbush R. R. Co. 17½ m, 4-8½ g, 47-50 lb r, 74 c, 255 h. Pres. Geo. W. Van Allen, 64 Ann St., New York, Sec. W. B. Waitt, 34th St. & 6th Ave., New York, Treas. C. B. Cottrell, 8 Spruce St., N. Y. City, Supt. Chas. E. Harris, Nostrand Ave. & Carroll St., Brooklyn.

The Union Railway Co. of the City of Brooklyn (not in operation).

Van Brunt St. & Erie Basin R.R. Co. 2 m, 4-8½ g, 45 lb r, 7 c, 24 h. Pres. John Cunningham, Sec. & Treas. Edmund Terry. Offices, 264 Van Brunt st.

BRUNSWICK, GA.—Brunswick St. R.R. Co.

BUFFALO, ILL.—See Mecbanicsburg, Ill.

BUFFALO, N. Y.—Buffalo St. R.R. Co. 17½ m, 4-8½ g, 50 lb r, 96 c, 510 h. Pres. Henry M. Watson, V. Pres. P. P. Pratt, Sec. S. S. Spaulding, Treas. W. H. Watson, Supt. Edward Edwards.

Buffalo East Side St. R.R. Co. 28 7-8 m, 4-8½ g, 42 lb r, 47 c, 218 b. Pres. S. S. Spaulding, V. Pres. Joseph Churchyard, Sec. H. M. Watson, Treas. W. H. Watson, Supt. Edward Edwards. Office 246 Main St.

BURLINGTON, IA.—Burlington City R.R. Co. 2¾ m, 4-8½ g, 22 lb r, 9 c, 30 h. Pres. John Patterson, Sec. & Man. C. T. Patterson.

Union St. Ry. Co. 8½ m, 4-8½ g, various r, 19 c, 85 h. Pres. Geo. E. Rust, Sec. & Supt. F. G. Jones.

CAIRO, ILL.—Cairo St. Ry. Co. 2 m, 3-6 g, 25 lb r, 3 c, 9 b. Pres. J. A. Goldstine, V-Pres. H. Bloms, Supt. & Treas. Thos. Lewis, Sec. H. Schulze.

CAMBRIDGE, MASS.—Cambridge R.R. Co. 51-59 m, 4-8½ g, 50 lb r, 255 c, 1,428 h. Pres. Prentiss Cummings, Treas. & Clerk Franklin Perrin, Exec. Com. I. M. Spelman, P. Cummings, O. S. Brown, Clerk of Directors, O. S. Brown, Supt. Wm. A. Bancroft.

Charles River St. Ry. Co. 12.188 m, 4-8½ g, 50 lb r, 60 c, 356 h. Pres. Chas. E. Raymond, Corp. Clerk C. E. Harden, Treas. Daniel U. Chamberlin, Supt. John N. Akarman.

CAMDEN, N. J.—Camden & Atlantic St. Ry.

Camden Horse R.R. Co. 9 m, 5-1 g, 25-47 lb r, 26 c, 85 h. Pres. Thos. A. Wilson, Sec. Wilbur F. Rose, Treas. & Supt. John Hood.

CANTON, O.—Canton St. R.R. Co. (new road.)

CAPE MAY, N. J.—Cape May & Schellenger Landing Horse R. R.

CARTHAGE, MO.—

CEDAR RAPIDS, IA.—Cedar Rapids & Marion Ry., 12¾ m, 4-8½ g, 27 and 35 lb r, 17 c, 40 h. Pres. W. Greene, V.-Pres, O. T. Richmond, Sec. N. B. Consigny, Treas. G. Greene,

CHAMPAIGN, ILL.—Champaign R.R. Co.

Urbana & Champaign St. R.R. Co. (See Urbana.)

CHARLESTON, S. C.—Charleston City Ry. Co. 8 ¼m, 4-8½ g, 38-42 lb r, 22 c, 84 h. Pres. Jno. S. Riggs, Treas. Evan Edwards, Sec. Frank Whelden, Supt. Jno. Mohlenhoff.

Enterprise R.R. Co. 12 m, 5 g, 42 lb r. 14 c, 51 h. Pres. A. F. Ravenel, Sec. & Treas. U. E. Hayne, Supt. T. W. Passallaigere.

Middle Street Sullivan Island Ry. Co. 2 m, 6 c, 12 mu. Pres. B. Callaghan, Sec. & Treas. Frank F. Whidden, Supt, B. Buckley.

CHATTANOOGA, TENN.—Chattanooga St. R. R. Co. 5½ m, 4-8½ g, 25-45 lb r, 12 c, 54 h. Pres. and Treas. J. H. Warner, Sec. C. R. Gaskill.

CHESTER, PA.—Chester St. Ry. Co. 5½ m, 5-2½ g, 47 lb r, 14 c, 66 h. Pres. Richard Peters, Jr., Treas. Sam'l H. Seeds, Sec. & Manager E. M. Cornell.

CHICAGO, ILL.—Chicago City Ry. Co. 87 m, 4-8½ g, 45 lb r, 567 c, 1,416 h, cable doing work of 2,500 h. Pres. C. B. Holmes, Sec. H. H. Windsor, Treas. T. C. Pennington, Supt. C. B. Holmes.

Chicago West Division Ry. Co. 40 m, 4-8½ g, 40 lb r, 620 c, 3,425 h. Pres. J. R. Jones, Sec. George L. Webb, Supt. De Witt C. Cregier.

Chicago & Hyde Park St. — m, — g, — lb r, — c, — h. Pres. Douglas S. Clarke.

North Chicago City Ry. Co. 35 m, 4-8½ g, 45 lb r, 316 c, 1,700 h. Pres. & Gen. Supt. V. O. Turner, V. Pres. Chas. T. Yerkes, Sec. & Treas. Hiram Crawford, Supt. of Track & Construction, Augustine W. Wright, Asst. Supt. Fred L. Threedy, Supt. Horse Dept. Robt. Atkins, Purch. Agt. John W. Roach, Master Mecbanic J. Miller.

CHILLICOTHE, O.—Chillicothe St. R.R. Co. 1¾ m, 3 g, 16 lb r, 7 c, 10 h. Pres. E. P. Safford, Sec. A. E. Wenis, Treas. William Polanel, Supt. Ewel McMartin.

CINCINNATI, O.—Cincinnati Inclined Plane Ry. Co. 3 m, 5-2½ g, 43 lb r, 24 c, 150 h. Pres. Geo. A. Smith, Sec. & Supt. James M. Doherty, Treas. Jos. S. Hill.

Cincinnati St. Ry. Co. Pres. Jno. Kilgour, V. Pres. Albert G. Clark, Treas. R. A. Dunlap, Sec. & Auditor, Jas. A. Collins, Supt. Jno. Harris, Pur. Agt. B F. Haughton.

Columbia & Cincinnati St. R.R. Co. 3½ m. 3 g, 35 lb r, 3 c, 6 dummy c. Pres. C. H. Kilgour, V. Pres. John Kilgour, Treas. B. F. Branman, Sec. A. H. Meier, Mt. Lookout, O. Supt. J. J. Henderson, Mt. Lookout, O.

Mt. Adams & Eden Park Inclined R.R. Co. 3½ m, 5-2½ g, 42 lb r, 40 c, 320 h. Pres. & Treas. J. P. Kerper, Sec. J. R. Murdock, Supt. Cbas. Whitten.

So. Covington & Cincinnati. (See Covington, Ky.)

CLEVELAND, O.—The Brooklyn St. R.R. Co. 8½ m, 4-8½ g, 52 lb r, 66 c, 375 h. Pres. Tom. L. Johnson, V. Pres. A. J. Moxham, Sec. J. B. Hoefgen, Treas. John McConnell, Supt. A. L. Johnson.

Broadway & Newburg St. R.R. Co. 6 m, 4-8½ g, 10 c, 160 h. Pres. & Supt, Joseph Stanley, V. Pres. Sam'l Andrews, Sec. & Treas. E. Fowler.

Superior St. R.R. Co. 15 m, 4-8½ g, 45 lb r, 46 c, 225 h. Pres. Frank De H. Robison, V. Pres. John Koch, Sec., Treas. & Supt. M. S. Robison, Jr.

The East Cleveland R.R. Co. 20 m, 4-8½ g, 35-40 lb steel r, 103 c, 520 h, 1 electric motor. Pres. A. Everett, V-Pres. & M. C. B. Chas. Wason, Sec. & Treas. H. A. Everett, Supt. E. Duty. Offices, 1154 & 1158 Euclid Ave.

Woodland Avenue & West Side St. R.R. Co. 20 m, 4-8½ g, 43-45 lb r, 124 c, 585 h. Pres. M. A. Hanna, V. Pres. C. F. Emery, Sec. J. B. Hanna, Gen. Supt. George G. Mulhern.

South Side St. R. R. Co. 3½ m, 3 g, 40 lb r, 8 c, 60 h. Pres. Tom L. Johnson, Supt. A. L. Johnson, Sec. & Treas. J. B. Hoefgen,

St. Clair Street Ry. Co.—m—g,—lbr—c,—Pres. Chas Hathaway.

West Side R.R. Co.

CLIFTON, CAN.—Clifton St. Ry. Co.

CLINTON, IA.—Lyons & Clinton Horse R.R. Co. See Lyons.)

COLUMBUS, GA.—Columbus St. R.R. Co. 3 m, 4-8½ g, 16 lb r, 6 c, 25 h. Pres. Cliff B. Grimes, Sec. L. G. Schnessler, Treas. N. N. Curtis, Supt. J. A. Gabourgh.

COLUMBUS, O.—Columbus Consolidated St. R.R. Co. 19 m, 5-2 g, 30-46 lb r, 83 c, 350 h. Pres. A. Rodgers, V. Pres. H. T. Chittenden, Sec. & Treas. E. K. Stewart, Supt. J. H. Atcherson.

Glenwood & Greenlawn St. R.R. Co. 4½ m, 3-6 g, 24 lb r, 9 c, 25 c. Pres. A. D. Rodgers, V. Pres. B. S. Brown, Sec. R. R. Rickly, Treas. S. S. Rickly, Supt. Jonas Willcox.

CONCORD, N. H.—Concord Horse R.R. Co. 8 m, 3 g, 30-33 lb r, 10 c, 14 h, 2 steam motors. Pres. Moses Humphrey, Treas. H. J. Crippin, Clerk E. C. Hoag.

CORTLAND, N. Y.—Cortland & Homer Horse Ry. Co. 4 m, 4-8½ g, 25-30 lb r. Pres. Chas. H. Garrison, Troy, N. Y. Sec. J. M. Milne, Treas. S. E. Welch, Supt. S. E. Welch. (Leased to D. N. Miller.) Office 23 No. Mercer St.

COUNCIL BLUFFS, IA.—Council Bluffs St. R.R.

COVINGTON, KY.—So. Covington & Cincinnati St. Ry. Co. 17¾ m, 5-2½ g, 43 lb r, 46 c, 296 h. Pres. E. F. Abbott, Sec. J. C. Benton, Treas. G. M. Abbott.

DALLAS, TEX.—Dallas St. Ry. Co. 4½ m, 4-8½ g, 20-38 lb r, 12 c, 4 h, 72 mu. Pres. Wm. J. Keller, Sec. Harry Keller, Supt. C. E. Keller.

Commerce & Ervay St. R.R. 1¼ m, 4-8½ g, 20 lb r, 5 c, 24 mu. Pres. A. C. Ardrey, Sec., Trea. & Man. H. W. Keller.

DANVILLE, ILL.—Citizens' St. Ry. Co. 4 m, 4 g, 20 lb r, 8 c, 35 mu. Pres. Wm. P. Cannon, V. Pres. & Gen. Man. Wm. Stewart, Sec. & Treas. Adam R. Samuel.

DAVENPORT, IA.—Davenport Central St. R.R. 2½ m, 4-8½ g, 20 lb r, 12 c, 36 h. Pres. James Grant, V. Pres. W. L. Allen, Treas. J. B. Fidler, Supt. B. Rumsey, Sec. O. S. McNell.

Davenport City Ry. Co. H. Schultger, Lessee.

DAYTON, KY.—Newport & Dayton St. Ry. Co. 2 m, 5-2½ g, 44 lb r, 9 c, 36 h. Pres. & Supt. W. W. Bean.

DAYTON, O.—Dayton St. R.R. Co. 7½ m, 4-8½ g, 44 lb r, 24 c, 80 h and mu Pres. J. W. Stoddard, V. Pres. H. S. Williams, Sec. C. A. Craigbead, Supt. A. W. Anderson.

Oakwood St. Ry. Co. 6 m, 4-8½ g, 38 lb r, 14 c, 56 h. Pres. Charles B. Clegg, Sec. H. V. Perrine.

The Wayne & Fifth St. R.R. Co. 3½ m, 4-8½ g, 34-38 lb r, 5 c, 30 b. Pres. Geo. M. Shaw, Sec. & Treas. Eugene Winchet, Supt. N. Routzahn.

DECATUR, ILL.—Decatur Horse Ry. Co.

Citizens' Street R.R. Co. 2 m, 4-8½ g, 20 lb T r, 7 c, 47 h & mu. Pres. D. S. Shellabarger, Sec., Treas. & Supt. A. E. Kinney.

DENISON, TEX.—Denison St. Ry. Co. 3 m, 3-6 g, 16 lb r, 5 c, 22 mu. Pres. C. A. Walterbouse, Supt. S. A. Robinson.

DENVER, COL.—Denver City Ry. Co. 16 m, 3-6 g, 16 lb r, 50 c, 250 h. Pres. Geo. H. Holt, 10 Wall St., New York City, Sec. G. D. L'huillier, 10 Wall St., New York City, Treas. & Man. G. E. Randolpb.

Denver Electric & Cable R. R. Co.

Denver Tramway Co.

DES MOINES, IA.—Des Moines St. Ry. Co. 10 m, 3 g, 25-30-38-52 lb r, 18 c, 100 h. Pres. M. P. Turner, Sec. M. A. Turner.

Des Moines & Sebastopol St. Ry. Co.

DETROIT, MICH.—Fort Wayne & Elmwood Ry. Co. 6 m, 4-8½ g, 45 lb r, 30 c, 180 h. Pres. H. B. Brown, V. Pres. Edward Kanter, Treas. George B. Pease, Sec. N. W. Goodwin, Supt. Geo. S. Hazard.

Detroit City Ry. 30 m, 4-8½ g, 40-43½ lb r, 130 c, 700 b. Includes Jefferson Ave. line, Woodward Ave. line, Michigan Ave. line, Gratiot Ave. line, Brush St. line, Cass Ave. line, Congress & Baker line. Pres. Sidney D. Miller, Treas. George Hendrie, Sec. James Heugb, Gen. Supt. Robert Bell, M. M. John Willis.

Grand River St. Ry. Co. 2¾ m, 4-8½ g, 43 lb r, 13 c, 110 h. Pres. & Treas. Jos. Dailey, Sec. J. W. Dailey, Supt. C. M. Dailey.

DOVER, N. H.—Dover Horse R.R. Co. 5 m, 3 g, 30 lb r, 4 c, 14 h. Directors, Z. S. Wallingfor, Chas. H. Sawyer, Jas. E. Lothrop, C. W. Wiggin, Harrison Haley, Frank Williams, Cyrus Littlefield, Treas. Harrison Haley.

DUBUQUE, IA.—Dubuque St. R.R. 5 m, 4-8½ g, 21 c, 45 h. Pres. J. A. Rbonberg, Sec. & Treas. B. E. Linehan, Supt. J. J. Lineban.

DULUTH, MINN.—Duluth St. Ry. Co. 6 m, 3-6 g, 33-51 lb r, 17 c, 90 h and mu. Pres. Sam'l Hill, V. Pres. Thos. Lowry, Sec. & Treas. A. S. Chase, Man. & Supt. T. W. Hoopes.

EAST OAKLAND, CAL.—Oakland, Brooklyn & Fruitvale R.R. Co.

EAST SAGINAW, MICH.—Street R. R. Co. of East Saginaw. — m, 4-8½ g, 30 lb r, 14 c, 35 h. Pres. & Supt. W. J. Barton, Sec. W. H. Hark, Treas. J. B. Peter.

EAST ST. LOUIS, ILL.—East St. Louis St. R.R. Co.

EASTON, PA.—The Easton & So. Easton Passenger Ry. Co. 1¾ m, 5-2½ g, 45 lb r, 4 c, 20 h. Pres. H. A. Sage, Sec. & Treas. H. W. Cooley, Supt. Elisha Burwell, So. Easton.

The West End Passenger Ry. Co. 1½ m, 5-2½ g, 45 lb r, 6 c, 20 h. Pres. H. A. Sage, Sec. & Treas. H. W. Cooley, Supt. Samuel Berry.

EAU CLAIR, WIS.—Eau Clair City Ry. Co.

ELGIN, ILL.—Elgin City Ry. Co. 2 c. Pres. Sec. Treas. Supt. & Owner, B. C. Payne.

ELIZABETH, N. J.—Elizabeth & Newark Horse R.R. Co. 14 m, 5-2½, 4-10½ g, 30 lb r, 24 c, 74 h. Pres. & Treas. Jacob Davis, Sec. & Supt. John F. Pritchard.

ELKHART, IND.—Citizens' Ry. Co. 3½ m, 4-8½ g, 30 lb r, 6 c, 30 h. Pres. F. W. Miller, V. Pres. G. C. Johnson, Sec. E. C. Bickel, Treas. A. R. Burns.

ELMIRA, N. Y.—The Elmira & Horseheads Ry. Co. 10 m, 4-8½ g, 25-30-40 lb r, 18 c, 34 h. Pres. & Treas. George M. Diven, V. Pres. Geo. W. Hoffman, Sec. Wm. S. Kershner, Supt. Henry C. Silsbee. Officers, 212 E. Water. St.

EL PASO, TEX.—El Paso St. Ry. Co. 2½ m, 4-8½ g, 20 lb r, 8 c, 25 h. Pres. G. B. Zimpelman, V. Pres. A. Krockauer, Treas. F. Magoffice, Sec. & Supt. I. A. Tays.

EMPORIA, KAN.—Emporia City Ry. Co. 3½ m, 5 g, 20 lb r, 6 c, 23 m. Pres. Van R. Holmes, Treas. A. F. Crowe, Sec. & Man. J. D. Holden.

ENTERPRISE, MISS.—Enterprise St. Ry. Co. 1½ m, 3-6 g, 24 lb r, 2 c, 6 h. Pres. John Kampe, V. Pres. E. B. Gaston, Sec. & Treas. J. W. Gaston.

ERIE, PA.—Erie City Passenger Ry. Co. 5¾ m, 4-8½ g, 30-40 45 lb r, 20 c, 85 h. Pres. Wm. W. Reed, Treas. Wm. Spencer, Sec. W. A. Demorest, Supt. Jacob Berst.

EUREKA SPRINGS, ARK.—Eureka Springs City Ry. Co.

EVANSVILLE, IND.—Evansville St. Ry. Co. 12 m, 4-8 g, 28 lb r, 31 c, 190 mu. Pres. John Gilbert, Sec. P. W. Raleigh, Treas. John Gilbert, Supt. W. Babr.

FALL RIVER, MASS.—Globe St. Ry. Co. 12 m, 4-8½ g, 40-46-47 lb r, 40 c, 160 h. Pres. Frank S. Stevens, Treas. F. W. Brightman, Sec. M. G. B. Swift, Supt. John H. Bowker, jr.

FITCHBURG, MASS.—Fitchburg St. Ry. Co. 3½ m, 6 c. Pres. H. A. Willis, V. Pres. H. J. Wallace, Treas. Ellab Barker of Boston, Supt. Wesley N. Sargent.

FORT SCOTT, KAN.—Bourbon County St. Ry. Co. 1 m, 4 g, 22 lb r, 2 c, 4 m. Pres. Isaac Stadden, V. Pres. Benj. Files, Sec. Wm. Perry, Treas. J. H. Randolph.

FORT SMITH, ARK.—Fort Smith St. Ry. Co. 2 m, 3-6 g, 16-28 lb r, 5 c, 16 h. Pres. Sam'l M. Loud, Sec. & Treas. Geo. T. Sparks.

FORT WAYNE, IND.—Citizens' St. R.R. Co.

FORT WORTH, TEX.—Fort Worth St. Ry. Co. 7½ m, 4 g, 25-38 lb r, 16 c, 73 m. Pres, K. M. Vanzandt, Treas. W. A. Huffman, Acting Sec. & Gen. Man. S. Mims, Supt. J. T. Payne.

FRANKFORT, N. Y.—Frankfort & Illon Street Ry. Co. 2½ m, 5 g, 4 c. Pres. A. C. McGowan, Frankfort, Sec. D. Lewis, Illon, Treas. P. Remington, Illon, Supt. Fredk. Gates, Frankfort.

FREDONIA, N. Y.—Dunkirk & Fredonia R.R. Co. 3½ m, 4-10 g, 25 lb r, 5 c, 8 h. Pres. Wm. M. McClnstry, Sec. & Treas. M. N. Fenner, Supt. Z. Elmer, Wheelock.

GAINSVILLE, FLA.—Gainsville St. Ry.

GAINSVILLE, TEX.—Gainsville St. Ry. Co. 2½ m, 3-6 g, 17 lb r, 4 c, 12 h. Pres. C. N. Stevens, V. Pres. J. T. Harris, Sec. & Treas. F. R. Sherwood.

GALESBURG, ILL.—College City St. Ry. Co. 3 m, 4-½ g, 18-20-48 lb r, 4 c, 16 h. Supt. Geo. S. Clayton.

GALVESTON, TEX.—Galveston City R.R. Co. 18 m, 4-8½ g, 30 lb r, 68 c, 169 mu. Pres. Wm. H. Sinclair, Sec. & Treas. F. D. Merrit, Supt. M. J. Keenan.

Gulf City St. Ry. & Real Estate Co. 15 m, 4 g, 20-30 lb r, 30 c, 90 mu. Pres. J. H. Burnett, Sec. & Treas. F. D. Allen.

GLOUCESTER, MASS.—Gloucester City R.R.

Gloucester St. Ry. Co. Pres. & Supt. Morris C. Fitch, V. Pres. Walter A Jones, Treas. Francis W. Homans, Sec. David S. Presson.

GRAND RAPIDS, MICH.—Street Ry. Co. of Grand Rapids, Mich. 14½ m, 4-8½ g. 25-40 lb r, 29 c, 190 h. Pres. C. A. Otis, Cleveland, O., V. Pres. L. H. Witbey, Grand Rapids, Treas. C. G. Swensberg, Grand Rapids, Sec l. M. Weston, Grand Rapids, Supt. A. Bevier, Grand Rapids.

GREEN CASTLE, IND.—Green Castle City St. Ry. Co. 2 m, 4-8½ g, 23 lb r, 3 c, 12 h. Pres. & Supt. D. Rogers, Sec. James S. Nutt, Treas. Rudolpb Rogers.

GREENVILLE, S.C.—Greenville City Ry. Co. 1 m 5 g. — lb r, 5 c, 20 h. Proprietors, Gilreatb & Harris.

HAMILTON, O.—The Hamilton St. Ry. Co. 4 m, 3 g, 28 lb r, 11 c, 12 h. Pres. James F. Griffin, Sec. O. V. Parrish, Treas. H. L. Morey, Supt. J. C. Bigelow.

HANNIBAL, MO.—Hannibal St. Ry. Co. 2 m, 4-8½ g, 36 lb r, 6 c, 22 h. Pres. & Supt. M. Doyle, Sec. & Treas. James O'Hern.

HARRISBURG, PA.—Harrisburg City Passenger Ry. Co. 5 m, 5 2½ g, 42-47 lb r, 26 c, 65 h, Pres. H. A. Kelker, V. Pres. Daniel Epply, Sec. John T. Ensminger, Treas. R. F. Kelker, Supt. S. B. Reed.

HARTFORD, CONN.—Hartford & Wethersfield Horse R.R. Co. 12 m, 4-8½ g, 45 lb r, 49 c, 250 h. Pres. & Treas. E. S. Goodrich, Sec. Geo. Sexton.

HAVERHILL, MASS.—Haverbill & Groveland St. Ry. Co. 4½ m, 4-4½ g, 30 lb r, 12 c. 30 b. Pres & Gen. Man. Jas. D. White, Treas. John A. Colby. Pentucket St. Ry. Co.

HELENA, ARK.—Helena St. Ry. Co.

HERKIMER, N. Y.—Herkimer & Mohawk St. Ry. Co. 1½ m, 4-8½ g, 25 lb r, 3 c. Pres. J. M. Ansmen, Sec. Joab Small, Treas. H. D. Alexander.

HOBOKEN, N. J.—North Hudson County Ry. Co. 16½ m, 4-7 g, 50-60 lb r, 116 c, 630 h Pres. John H. Bonn, Sec. F. J. Mallory, Treas. Fredk. Mickel, Union, Supt. Nicholas Goetz, Union.

HOLYOKE, MASS.—Holyoke St. Ry. Co. 2 m, 4-8½ g, 35 lb r, 8 c, 26 h. Pres. Wm. A. Chase, Treas. C. Fayette Smith, Supt. H. M. Smith.

HOT SPRINGS, ARK.—Hot Springs R.R. Co. 3 m, 4 g, 25 lb r, 11 c, 30 h. Pres. S. W. Fordyce, Sec. C. E. Maurice, Supt. J. L. Butterfield.

HOUSTON, TEX.—Houston City St. Ry. Co. 14 m, 4-8½ g, 20-30-40 lb r, 40 c, 118 m. Pres. Wm. H. Sinclair, Galveston, V. Pres. & Gen. Man. H. F. MacGregor, Houston, Supt. Henry Freund, Houston, Sec. & Treas. E. H. Bailey.

HUTCHINSON, KAN.—Hutchinson St. Ry. Co.

ILION, N. Y.—Frankfort & Illon Ry. Co. 2½ m, 5 g, 25 lbr, 4 c, 6 h. Pres. A. C. McGowan, Sec. D. Lewis, Treas. F. Remington, Supt. Frederick Gates.

INDIANAPOLIS, IND.—Citizens' St. Ry. Co. 35 m, 4-8½ g, 20-33-38-40-52 lb r, 70 c, 535 h. Pres. A. W. Johnson, Indianapolis, Treas. Tom L. Johnson, Cleveland, O. Sec. A. A. Anderson, Indianapolis, Man. W. T. Steele, Indianapolis, Auditor P. Woolridge, Louisville, Ky.

JACKSON, MICH.—Jackson City Ry. Co. — m, — g, — lb r, 11 c, 40 h. Pres. Hiram H. Smith, Treas. Samuel Hopewell, Gen. Supt. Henry H. Smith.

JACKSON, MISS.—Jackson Street Ry. Co.

JACKSON, TENN.—Jackson Street Ry. Co.

JACKSONVILLE, FLA.—Pine St. R.R. Co. 2½ m, 5 g, 25 lb r, 4 c, 18 m. Owner & Gen. Man. G. H. Backinstae, Sec. & Treas. F. W. Backinstae.

Jacksonville St. Ry. Co. 2¾ m, 5 g, 25 lb r, 10 c, 36 m. Pres. H. S. Haines, Savannah, Ga., V. Pres. & Sec. Geo. R. Foster, Treas. W. P. Hardee, Savannah, Ga., Supt. G. W. Haines.

JACKSONVILLE, ILL.—Jacksonville Ry. Co. Supt. B. F. Sibert.

JAMAICA, N. Y.—Jamaica & Brooklyn R.R. Co. 10 m, 4-8½ g, 56-60 lb r, 29 c, 56 h. Pres. Aaron A. Degrauw, Sec. Martin J. Durea, Treas. Morris Fosdick, Supt. Wm. M. Scott.

JAMESTOWN, N. Y.—Jamestown St. Ry. Co. 3.67m 4-8½ g, 30-42 lb r, 13 c, 15 h. Pres. R. N. Marvin, V. Pres. F. E. Gifford, Treas. A. N. Broadhead. Supt. G. E. Mattby, Sec. & Atty. C. R. Lockwood

JERSEY CITY, N. J.—Jersey & Bergen R. R. Co. 21 m, 4-10 g, 60 lb r, 73 c, 494 h. Pres. Chas. B. Thurston, V. Pres. Wm. Keeney, Treas. C. B. Place, Sec. Warren E. Dennis, Newark, Supt. Thos. M. Sayre.

JOHNSTOWN, N. Y.—The Johnstown, Gloversville & Kingsboro Horse R.R. Co. 5¾ m, 4-8½ g, 26 lb r, 6 c, 16 h. Pres. James Younglove, V. Pres. R. Fancber, Sec. & Treas., J. Mc Laren.

JOHNSTOWN, PA.—Johnstown Pass. R.R. Co. 7½ m, 5-3 g, 41-43 lb r, 13 c, 73 h. Pres. James McMillen, Sec. B. L. Neagley, Treas. W. H. Rosensleet, Jr.

JOLIET, ILL.—Joliet City R.R. Co. 3½ m, 4-8½ g, 40 lb r, 16 c, 30 h. & mu. Owner, J. A. Henry, A. Bischman, Casb. J. E. Henry.

JOPLIN, MO.—

KALAMAZOO, MICH.—Kalamazoo St. Ry. Co. 10 m, 4-8½ g, 35 lb r, 28 c, 80 h. Pres. Fred Bush, Sec. J. W. Boynton, Treas. P. H. Brown.

KANSAS CITY, MO.—Kansas City Cable Ry. Co. 2¾ m, 4-8½ g, 45 lb r, 10 pass. cars, 10 dummy cars. Pres. Wm. J. Smith, Sec. W. H. Lucas, Eng. Robert Gillham. Supt. Edward J. Lawless.

Corrigan Consolidated St. Ry. Co. 20 m, 4-1 g, 30 b r, 80 c, 350 b. Pres. Bernard Corrigan, Gen. Man. Thos. Corrigan, Sec. Jas. T. Kelley.

Jackson County Horse R. R. Co.

Kansas City & Rosedale St. Ry. Co.

Kansas City & Westport St. R.R. Co.

KEOKUK, IA.—Keokuk St. Ry. Co. 4 m, 4-8½ g, 27 lb steel r, 12 c, 40h. Pres. Jas. H. Anderson, V. Pres. Jos. G. Anderson, Sec. R. James Anderson, Treas. & Supt. W. E. Anderson.

KINGSTON, ONT., CAN.—Kingston St. R.R. Co. ¾ m, 3-6 g, 9 lb r, 10 c, 36 h. Pres. Robert Carson, Sec. & Treas. F. Sargent, Man. William Wilson.

KNOXVILLE, TENN.—Knoxville St. R.R. Co. 2 m, 4-8½ g, 22 lb r, 5 c, 2 hacks, 30 h. Pres. W. P. Chamberlain, Sec., Treas. & Supt. T. L. Beaman.

Mabry Bell Ave. & Hardee St. Ry. Co. Pres. R. N. Hood, Sec. B. L. Smith.

Market Sq. & Asylum St. Ry. Co. Pres. Peter Kern, Sec. W. H. Simmonds.

LACONIA, N. H.—Laconia & Lake Village Horse R.R. 2¾ m, 3 g, 34 lhr, 5 c, 17 h. Pres. A. G. Folsom, Treas. Edmund Little, Man. Bela S. Kenniston.

LA CROSSE, WIS.—La Crosse City St. Ry. Co. Pres. B. E. Edwards, V. Pres. Geo. F. Gund, Treas. Fred Tillman, Sec. Jas. T. Daggart, Supt. (North Division), Peter Valler, Supt. (South Division), Geo. F. Smith.

LAFAYETTE, IND.—LaFayette St. Ry. 2¾ m, 4-8½ g, 35 lb r, 6 c, 38 h. Pres. F. B. Caldwell, LaFayette, Sec. & Treas. E. G. Jones, Decatur, Ill., Supt. F. Greer, LaFayette.

LAKE CITY, FLA.—Lake City St. Ry. Co.

LAMPASAS SPRINGS, TEX.—Lampasas City Ry. Co. 3½ m, 4-8½ g, 22 lb r, 6 c, 15 h. [Owned by Mrs L. R. Snodgrass.] Gen. Man. Geo. M. Snodgrass.

LANCASTER, PA.—Lancaster & Millersville St. Ry. Co.—m, 4 8½ g, 30 lb r, 4 c, 14 h. Pres. J. C. Hager. V. Pres. H. S. Shirk, Sec. & Treas. Chas. Dennes.

Lancaster City St. Ry. Co.

LARCHMONT, N. Y.—Larchmont Manor Co. 1 m, 4-8 g, 25 lb r, 2 c, 8 h. Pres. C. H. Murray, Treas. S. H. French. 38 East Fourteentb St, N. Y. City.

LAWRENCE, KAN.—Lawrence Transportation Co. 5 m, 4-1 g, 38 lb r, 7 c, 34 h. Pres. H. Tisdale, Sec. W. H. Bangs.

LAWRENCE, MASS.—Merrimack Valley Horse R.R. Co. 6 4-5 m, 4-8½ g, 48 lb r, 20 c, 70 h. Pres. Wm. A Russell. V. Pres. Jas Walton, Methuen, Clerk & Treas James H. Eaton, Supt. A. N. Kimball, Lawrence.

LEWISTON, ME.—Lewiston & Auburn Horse R.R. Co. 7½ m, 4-8½ g, 32 lb r, 16 c, 45h. Pres. Frank W Dana, Lewiston, Clerk, H. C. Little, Lewiston, Treas. H. C. Packard, Auburn, Supt. E. P. Stinchfield, Auburn

LEXINGTON, KY.—Lexington City Ry. Co. 5 m, 4-10 g, 20 lb r, 20 c, 85 h. Pres. John Cross, V. Pres. C. R. Diver, Sec. & Supt. Bert. Cross.

LEXINGTON, MO.—Lexington St. Ry. Co.

LIMA, O.—Lima St. Ry. Co.

LINCOLN, NEB.—Capital City Ry. Co. 4m, 4 8 1-g, 25 lb r, 8 c, 64 h. Pres. & Treas. E. B. Durfee, Sec. & Supt. H. B. Durfeee.

Lincoln St. Ry. Co. 6¼ m, 10 c, 60 h. Pres Frank L; Sheldon, Supt L. P. Young.

LITTLE ROCK, ARK.—Little Rock St. Ry. Co.. 4¼ m, 5-10 g, 36 lb r, 9c, 80 mu: Pres. T. J. Darragh, Sec A. J. Thompson, Tres. C. F. Penzel, Sup. J. A. Garrett.

Citizens' St. Ry. Co. 4½ m, 4-10 g, 20 lb r, 22 c, 80 h. Owned and operated by Little Rock Street Railway Co. Same offices.

LOGANSPORT, IND.—Logansport Ry. Co. 2 m, 4g, 28 lb r, 6 c, 29 mu. Pres. Frank. G. Jaques, Sec. M. Jaques, Supt. Wm. P. Jaques. Office, Urbana, Ill.

LONDON, CAN.—London St. R.R. Co. 3 m, 4-8½ g, 30 lb r, 12 c, 30 h. Pres. V. Cronga, Sec. Jas. H. Flock, Supt. Henry Thos. Smith.

LONG ISLAND CITY, N. Y. — Steinway & Hunter's Point R.R. Co. 30½ m, 4-8½ g, 47 lb r, 65 c, 154 h. Pres. Wm. Steinway, Steinway Hall, N. Y. City. V. Pres. Henry A. Cassebeer, Jr., Steinway P. O., Long Island City, N. Y. Sec. & Treas. Chas. F. Trethar, Steinway Hall, N. Y. City. Supt. Chas. J. Campbell. Offices Steinway Hall, N. Y.

Dutch Kills & Hunter's Point R.R. — m, — g, — lb r, — c, — h Pres. R. J. Gleason.

Long Island City & Newtown Ry. Co. 4½ m, 4-8½ g, 45-55 lb r, 25 c, 60 h. Pres. Isaac Buchannan, N. Y. City, Sec. Geo. S. Crawford, Brooklyn. N. Y., Treas. Patrick J. Gleason, Supt. Michael Conway. Offices 112 Front St.

LONGVIEW, TEX.—Longview & Junction St. Ry. ¾ m, 3-6 g, 2 c, 4 h. Pres. F. T. Rembert, Sec, R. B. Levy, Treas. F. L. Whaley, Supt. C. W. Booth.

LOS ANGELES, CAL.—Boyle Heights R.R. Co.
Central R.R. Co. and the Sixth & San Fernando St, R.R. Co. 7 m, 3-6 g, 16 lh r, 13 c, —h. Pres. E. T. Spencer, Sec. F. X. Palmer, Supt. J. A. Fairchild.
City & Central St. Ry. Co. 4½ m, 3-6 & 4-8 g, —lb r, 2 g cars, 167 h. Pres. I. W. Hellman, Sec. Fred Harkness, Supt. Wm. Hawks.
Los Angeles & Aliso Ave. St. R.R. Co.
Main St. & Agricultural Park Ry. Co. Pres. W. J. Broderick, Sec. Col. John Wheeler, Supt. Wm Hawks.
Second St. Cable Ry. Co. 6 c and 6 grip c. Pres. Jesse Garnell, Sec. & Man. Edw. A. Hall, Eng. and Supt. —— Kibbie.
Temple. St. Cable Ry. Co. 8 c. and 8 grip c. Pres. Walter S. Maxwell, Supt. and Man. Col. A. H. Wands

LOUISVILLE, K Y.—Kentucky St. Ry. Co. 5 m, 5-2 g, — lh r, 22 c —h. Pres. T. J. Minary, Sec. & Treas. Thos Donigan.
Central Pass. R.R. Co. —m, —g, —lb r, —c, —h, Pres. ——, V. Pres. Thos. J. Minery,
Crescent Hill Ry. Co.
Louisville City Ry. Co. 63 m, 5 g, 58 lb r, 214 c, — mu. Pres. Maj. Alexander Henry Davis, Syracuse, n Y., V. Pres. St. John Boyle, Sec. & Treas. R. A. Watts, Supt. H. H. Littell.

LOWELL, MASS.—Lowell Horse R.R. Co. 6 m. 8¼ g, 28-47 lb r, 28 c, 100 h. Pres. Wm. E. Livingston, Gen. Man. J. A. Chase.

LYNCHBURG, VA. — Lynchburg St. R.R. Co. 2 m, 5-1 g, 26 lb r, 6 c, 31 h. Pres. Stephen Adams, Treas. John L. Adams, Supt. William M. Payne.

LYONS, IA.—Clinton & Lyons Horse Ry. Co. 4½ m, 3-8 g, 19-30 lb r, 15 c, 40 h. Pres. D. Joyce, V. Pres. & Man. R. N. Rand.

MACON, GA.—Macon & Suburban St. R.R. Co. 6½ m, 4-8½ g, 20 lb T r, 20 c, 100 mu. Pres. John S. Bransford, Nashville, Tenn., Sec. and Supt. Jno. T. Voss. Office, Elm St.

MADISON, IND.—Madison St. Ry. Co. 2½ m, 4 g, 15 lb r, 7 c, 8 h, 10 mu. Pres. Jacob Wendle, V. Pres. Peter F. Robenlius, Supt. & Treas. Chas. F. Tuttie.

MADISON, WIS.—Madison St. Ry. Co. 2½ m, 3 g, 23 lb r, 8 c, 7 h, 24 mu. Pres., D. K. Tenney, Sec. and Treas. B. W. Jones, Supt. A. R. Kentzler.

MANCHESTER, N. H.—Manchester Horse R.R. 5½ m, 3-½ g, 27-34 lh r, 14 c, 55 h. Pres. S. N. Bell, Treas. F Smyth, Clerk J. A. Weston, Supt. A. Q. Gage.

MARSHALLTOWN, IA.—3 m, 4 g, 25 lh r, 7 c, 20 h. Pres. B. T. Frederick, Treas. T. E. Foley, Sec. C. C. Gillman, Supt. A. E. Shorthill.

MARYSVILLE, CAL.—City Pass. R.R. Co. (No returns.)

MAYSVILLE, KY.—Maysville St. Ry. & T. Co. 3 m, 20 lh r, 4-8½ g, 6 c, 32 mu. Pres. L. W. Robertson, Sec. & Treas. W. S. Frank.

MECHANICSBURG, ILL. — Mechanicsburg & Buffalo Ry. Co. 3½ m, 3-10 g, 16 lh r, 3 c, 4 mu. Pres. J. N. Fullenwelder, Treas. A. T. Thompson, Sec. H. Thompson.

MEMPHIS, TENN.—Memphis City R.R. Co. 18 m, 5 g, 38-40 lh r, 66 c, 320 h, Pres. R. Dudley Frayser, V. Pres. Thos. Barrett, Supt. W. F. Shippey.

MERIDIAN, MISS.—Meridian St. Ry. Co. 2 m, 4-8 g, 16 lb T r, 5 c, 11 mu, Pres. Geo. S. Conant, V. Pres. and Sup. J. L. Handley, Treas. J. A. Kelly, Sec. R. M. Houston.

MICHIGAN CITY, MICH.—Michigan City St. Ry. Co.

MIDDLETOWN, CONN.—Middletown Horse Ry. Co 2 m, 6 c, 31 h. Pres. John M. Danford, Sec. and Treas. J. K. Guy, Supt. Joseph Lane.

MIDDLETOWN, O.—Middletown Horse R.R. Co. Pres. John M. Douglas, Sec. & Treas, Jas. K. Guy.

MILLERSVILLE, PA.—Lancaster & Millersville St. R.R. Co.

MILWAUKEE, WIS.—Cream City R.R. Co. 8 1-6 m, 4-8½ g, 27-38 lb r, 74 c, 307 m, 2 h. Pres. Winfield Smith, V. Pres. Christian Preusser, Treas. Ferdinand Knehn, Sec. Wm. Damkoehler, Gen. Man. D. Atwood, Supt. H. J. C. Berg.
Milwaukee City Ry. Co. 30 m, 4-8½ g, 27 lb iron & 48 lb steel r, 80 c, 450 h. Pres. Peter McGeoch, Sec. & Treas. Geo. O. Wheatcroft.
West Side St. Ry. Co. Owner & Manager, Washington Becker, Supt. —— McNaughton.

MINNEAPOLIS, MINN.—Minneapolis St. Ry. Co. 62 m, 3-6 g, 27-35-45 lb r, 186 c, 1050 h and mu. Pres. Thos. Lowry, V. Pres. C. Morrison, Treas. W. W. Herrick. Sec. C. G. Goodrich, Supt. D. W. Sharp.

MOBILE, ALA.—City R.R. Co. 17½ m, 5-2 g, 35 lb T-r, 68 c, 240 h. Pres. Jno. Maguire, Sec. I. Strausse, Treas. Myer I. Goldsmith, Supt. A. Moog.
Dauphin & Lafayette Ry. Co. 2 m, 6-2½ g, 40 lb r, 9 c, 10 h, 12 m. Pres. D. P. Bestor, V. Pres. & Sec. G. Y. Overall. Treas. & Acting Sec. Jas. W. Gray, Pur. Agt. & Man. J. B. Robertson.
Mobile & Spring Hill R.R. Co. 8 m, 5-2½ g, 35 lb r, 15 c, 35 h, 1 dummy. Pres. Daniel McNeill, Sec. & Treas. C. F. Sheldon, Man. F. Ingate.

MOHAWK, N. Y.—Mohawk & Ilion R.R. Co. 1¼ m, 4-8½ g, 30 lb r, 4 c (contract for motive power). Pres. O. W. Bronson, V. Pres. J. Brown, Sec. H. D Alexander, Treas. R. M. Devendorff, Supt. O. W. Bronson.

MOLINE, ILL.—Moline Central St. Ry. Co. 1¼ m, 4-8½ g, 30 lb r, 3 c, 10 h. Pres. S. H. Velie, V. Pres. P. H. Wessel, Sec. W. R. Moore, Treas. C. F. Hemenway.
Moline & Rock Island St. Ry. Co. 5 m, 4-8½ g, 20 lb r, 13 c, 41 h. Pres. J. Huntoon, Sec. I. M. Buford, Treas. C. Lyons, Supt. Wm. Gamble.

MONTGOMERY, ALA.—Capital City Electric St. Ry. Co. Electric motors.

MONTREAL, CAN.—Montreal City Pass. Co. 21 m, 4-8½ g, — lb r, 76 c, 465 h. Pres. Jesse Joseph, V. Pres. Alex. Murray Sec. & Man. Ed. Lusher, Supt. T. H. Robillard.

MOULTRIEVILLE, S. C.—Middle St. & Sullivan's Landing Ry.

MT. VERNON, N. Y.—Mt. Vernon St. Ry. Co.

MUSCATINE, IA.—Muscatine City Ry. Co. 3½ m, 3-6 g, 21 lb r, 7 c, 19 h. Pres. Peter Musser, V. Pres. D. C. Richman, Sec. T. R. Fitzgerald, Treas. S. M. Hughes, Supt. O. J. Chapman.

MUSKEGON, MICH.—Muskegon Ry. Co. 4½ m, 3-6 g, 20 lb r, 8 c, 26 h, 8 mu. Pres. F. A. Nims, V. Pres. Chas. Merriam, Boston, Mass., Sec. Thomas Munroe, Treas. G. R. Sherman, Supt. C. H. Newell.

NASHUA, N. H.—Nashua St. Ry. Co.

NASHVILLE, TENN.—Nashville & Edgefield R.R. Co. Fatherland Street Railway Co. North Edgefield and Nashville St. R.R. Co., one management. 5 m, 5 g, 16-20-32 lh r, 21 c, 100 mu. Pres. Jno. P. White, Sec. & Treas. H. B. Stubblefield, Supt. Daingerfield Deaderick.
McGavock & Mt. Vernon Horse R.R. Co. 7½ m, 5 g, 16-20-28-32 lh r, 25 c, 140 h & mu. Pres. John P White, V. Pres. B. F. Wilson, Sec. & Treas. H. B. Stubblefield, Supt. Daingerfield Deaderick.
South Nashville St. R.R. Co. 4½ m, 5 g, 16-20 lb r, 10 c, 68 h. Pres. W. M. Duncan, Sec., Treas. & Supt. C. L. Fuller.

NATICK, MASS.—Natick & Cochituate St. Ry. 3 m, 4-8½ g, 35 lb r, 6 c, 17 h. Supt. Geo. F. Keep.

NEW ALBANY, IND.—New Albany St. Ry. Co 6 m, 4-11½ g, 25 lh r, 15 c, 55 h. & mu. Pres. Geo. T. Vance, Treas. Letitia V. Vredenburgh, Supt. & Pur. Agt. Wm. L. Timberlake.

NEWARK, N. J.—Newark & Bloomfield St. R.R. Co. 7 m, 5-2½ g, 47 lb r, 22 c, 140 h. Pres. S. S. Battin, Sec. W. L. Mulford, Supt. H. F. Totten. Consolidated with Essex Pass. Ry. Co.
Broad St. R.R.
Newark & Irvington St. Ry. Co., 7 m, 5-2½ g, 47 lb r, 28 c, 130 h, Pres. S. S. Battin, Sec. W. L. Mulford, Supt. H. F. Totten.

NEW BEDFORD, MASS.—New Bedford & Fairhaven St. Ry. Co. 7½ m, 4-8½ g, 35-45-50 lh r, 428 c, 140 Pres. Warren Ladd, Treas. & Clerk, A. G. Pierce.
Acushnet St. R.R. Co., 6 m, 4-8½ g, 38 lb r, 29 c, 103 h. Pres. Chas. E. Cook, Sec. & Treas. A. P. Smith.

NEWBURGH, N. Y.—Newburgh St. R. R. Co. Pres. D. S. Haines, Sandy Hill.

NEWBURYPORT, MASS.—Newburyport & Amesbury Horse R.R. Co. 6 1-3 m, 12 c, 54 h. Pres. W. A. Johnson, Treas. N. H. Shepard, Sec. Geo. H. Stevens. Lessee, E. P. Shaw.

NEW HAVEN, CONN.—Fair Haven & Westville R.R. Co. 7 m, 4½ g, 42 lb r, 23 c, 150 h. Pres. H. B. Ives, Sec. & Treas. L. Candee, Supt. Walter A. Graham.
New Haven & Centreville Horse R.R. Co. 2½ m, 4-8½ g, 42 lb r, 4 c, 30 h. Trustee Cornelius Pierpont.
State Street Horse R.R. Co. 2¼ m, 4-8 g, 43 lh r, 4 c, 40 h. Pres. C. A. Warren, Sec. & Treas. C. C. Blatchen.
The Whitney Ave. Horse Ry. 2¼ m, 4-8½ g, 25 lb r, 3 c, 25 h. Pres. Geo. H. Watrous, Sec. George D. Watrous, Treas. Eli Whitney, jr.

NEW ORLEANS, LA.—Canal & Claiborne St. R.R. Co. 13 m, 5-2½ g, 37 lb r, 40 c, 200 h. Pres. E. J. Hart, Sec. & Supt. Jos H. DeGrange.
Crescent City R.R. Co. 26 m, 5-2½ g, 35-45 lb r, 90 c, 400 h. Pres. Frank Roder, Sec. & Treas. Jno. J. Juden, Supt. A. V. Smith.
New Orleans St. R.R. Co.
Orleans R.R. Co. — m, — g, — lb r, 32 c, 140 h. & mu. Pres. & Supt. H. Larquie, Sec. & Treas. P. Cougot. Office, cor. White & Laharpe Sts.
St Charles St. R.R. Co. 15 m, 5-2½ g, 35 lb r, 60 c, 366 m. Pres. & Supt. Alden McLellan, Sec. Vincent Riviere.
New Orleans & Carrollton R.R. Co. 8 m, 4-8½ g, 30-45 lb r, 65 c, 200 h, 19 engines. Pres. Wm. Benthuysen, Sec. Walter F. Crouch, Supt. C. V. Halle.
New Orleans City & Lake R.R. Co. 64 m, 5-2¾ g, 46-40 lh r, 180 c, 39 coaches, dummy engines, 1050 mu. Pres. J. A. Walker, Sec. W. E. Leverich, Supt. F. Wintz.

NEWPORT, KY.—Newport St. R.R. Co.

NEW YORK, N.Y.—Ninth Ave. R.R. Co. 16 m, 4-8½ g, 60 lb r, 52 c, 530 h. Pres. W. H. Hays, Sec. & Treas. James Affieck, Supt. Heman B. Wilson. Offices, Ninth Ave., cor. 54th St.
Broadway & Seventh Ave. R.R. Co. 16 m, 4-8½ g, 47-60 lb r, 150 c, 1,350 h. Pres. James W. Foshay, Sec. & Treas. Thos. B. Kerr, Supt. Henry A. Newell. Office 761, Seventh Ave.
Central Crosstown R.R. Co. 5·22 m, 4-8½ g, 52 lh r, 45 c, 241 h. Pres. Geo. S. Hart, V. Pres. A. Cammack, Sec. & Treas. Milton I. Masson, Office 365 Ave. A.
Central Park, North & East River R.R. Co. 19 m, 4-8½ g, 60 lb r, 162 c, 1,226 h. Pres. J. H. Scribner, V. Pres. C. D. Wyman, Sec. H. Scribner, Treas. J. L. Valentine, Supt. M. W. A. Harris. Office, Tenth Ave., 53d. & 54th. St.
Christopher & Tenth St. R.R. Co. 6 m, 4-8 g, 45 lb r, 47 c, 290 h. Pres. Jacob Sharp, Treas. W. T. Hatch, Sec. & Supt. G. W. Lynch. Office, 168 Christopher St
Dry Dock, East Broadway & Battery R.R. Co. 18¾ m, 4-8½ g, 60 lb r, 187 c, 1,132 h. Pres. William White, Auditor E. T. Landon, Sec. & Treas. Richard Kelly, Supt. Fred F. White. Offices, 605 Grand sS.
Eighth Ave. R.R. Co. 20 m, 4-8½ g, 60 lb r, 112 c, 1155 h. Pres. W. H. Hays, Sec. & Treas. James Affieck, Supt. H. B. Wilson. Office, Eighth Ave. & 50th St.
Forty-second Street & Grand Street Ferry R.R. Co. 10¼ m, 8-4 g, 64 lb r, 50 c, 500 h. Pres. Chas. Curtis, Sec. & Treas. E. S. Allen, Supt. John M. Calhoun. Office, 653 W. 42d St.
Forty-second St., Manhattanville and St. Nicholas Avenue Ry. Co. 18¾ m. Pres. Dan'l D. Conover, Sec. and Treas, John P. Roberts, Supt, Abram L. Smith. Offices 42d street and 7th aves.
Harlem Bridge, Morrisania & Fordham Ry. 16.37 m 4-8½ g, 45-60 lh r, 65 c, 318h. Pres. and Supt, H. Spratley, V. Pres. Richard M. Hoe, Sec. & Treas. Wm. Caldwell. Office, North Third Ave, near 170 St.
Houston, West Street & Pavonia Ferry R.R. Co, 11 2-3 m, 4-8½ g, 60 lb r, 50 c, 450 h. Pres. Rich, Kelly, Sec. & Treas. Daniel B. Hasbrouck. Office, 415 E. 10 St.
Jerome Park R.R. 1 2-3 m, 4-8½ g, 50-56 lb r. Pres. Leonard M. Jerome, Sec. Fred A. Lovecraft, Treas. Theodore Moss. Office, cor. 5th. Ave. & 22d St.
New York City St. Ry. Co. 10 m, [not in operation]. Pres. Loomis L. White, Sec. W. L. McCorkie, Treas. Wm. L. Skidmore.
New York & Harlem R.R. Co. 17½ m, 4-8½ g, 60-75 lb r, 161 c, 1,660 h. Pres —— —— V. Pres. & Sec. Cornelius Vanderbilt, Treas. Ed. V. Rossiter, Supt. Alfred Skitt, Pur. Agt. P. S. Bemis.
Sixth Ave. R.R. Co. 9½ m, 4-8½ g, 60 lb r, 127 c, 1296 h. Pres. Frank Curtiss, Sec. and Treas, Henry S. Moore, Supt, Edw E. Moore. Office, 758 6th Ave.
South Ferry Ry. Co. 1¾ m, 4 8½ g, 60 lb r, 13 c, 41 h, Pres. Henry Hart, Sec. Wm. N. Cohen, Treas. Albert J. Ellas, Supt. Chas H. Meeks. Office 20 Whitehall St.
The Second Ave. R.R. Co. 23 m, 4 8½ g, 60 lb r, 316 9cars, 1750 h. Pres. W. Thorn, V Pres. J. Wadsworth, Sec. & Treas. J. B. Underhill. Office Second Ave. cor. 96th St.
The Third Ave. R. R. Co. 16 m main line, 6½ m 10th Ave, cable line, 4 m 125th street cable line, 4-8½ g, 60 & 74 lb r, 318 c, 2150 h. Pres. Lewis Lyon, 737 Madison ave., V. Pres. Henry Hart, 110 Tribune Building, Sec. Alfred Lazarus, 436 W. 61st st., Treas, John Beaver, 211 E. 112th st., Supt. John H. Robertson, 307 E. 65th st.
Twenty-third St. R.R. Co. 14 m, 4-8½ g, 54 lb r, 102 c, 692 h. Pres. Jacob Sharp, Sec. Thos. H. McLean, Treas. Lewis May, Act-Supt. George Ferry. Office 621 West 23d St.

NIAGARA FALLS, N. Y.—Niagara Falls & Suspension Bridge Ry. Co. 2½ m, 4-8½ g, 28-42 lb r, 8 c, 36 h. Pres. Benj. Flagler, Sec. W. J. Mackay, Treas. A. Schoellkopf.

NORFOLK, VA.—Norfolk & City R.R. Co. 3½ m, 5-2 g, 44 lb r, 18 c, 65 h. Pres. John B. Whitehead Treas. H. C. Whitehead, Supt. E. W. Savage.

NORTH ADAMS, MASS.—North Adams Horse Ry. Co.

NORTHAMPTON, MASS.—Northampton St. Ry. Co. 3½ m, 4-8½ g, 32 lh r, 7 c, 26 h. Pres. Oscar Edwards, Sec. M. H. Spaulding, Treas. & Sup. E. C. Clark.

NORWALK, CONN.—Norwalk Horse R.R. Co. 2 m, 4-10 g, — lh r, 7 c, 20 h. Pres. James W. Hyatt, V. Pres. & Sec. Edwin G. Hoyt, Sup. James W. Hyatt.

NORWICH, CONN.—Norwich Horse R.R. Co.

OAKLAND, CAL.—Alameda, Oakland & Piedmont R.R.
Berkley Villa R.R.
Broadway & Piedmont St. R.R. Co.
Fourteenth St. R.R. Co. 6 m. 5 g, 20-30 lb r, 6 c, — h. Pres. & Supt. Walter Blair, Sec. P. J. Van Loben. Oakland R.R. Co.

OGDEN CITY, UTAH.—Ogden City Ry. Co, 3 m, 4-8½ g, 20 lb r, 4 c, 21 h. Pres. L. W. Shurtle, Ogden City, V. P. & Supt. O. P. Arnold, Salt Lake City, Sec. & Treas. H. S. Young, Ogden City.

OGDENSBURG, N. Y.—Ogdensburg St. Ry. Co. 5 m.

OLEAN, N.Y.—Olean St. Ry. Co. 1½ m, 3-6 g, 25 lh r, 3 c, 8 h. Pres. M. B. Fobes, Sec. & Treas. M. W. Barse.

OMAHA, NEB.—Omaha Horse Ry. Co. 15 m, 4-8½ g, 35 lh r, 40 c, 300 h. Pres. Frank Murphy, V. Pres. Guy C. Barton, Treas. W. W. Marsh, Supt. W. A. Smith.

ONEIDA VILLAGE, N. Y.—Onelda Ry. Co. 2 m, 4-8½ g, 47 lb r, 3 c, 6 h. Pres. Jerome Hickox. Sec. & Treas. W. E. Northrup, Supt. Chas. Bonta.

OSHKOSH, WIS.—Oshkosh St. R R. Co. 3½ m, 4-8½ g, 27 lh r, 9 c, 24 h. Pres. Leander Choate, V. Pres. F. Zentner, Sec. & Treas. J. Y. Hull, Sup. F. L. Thompson.

OSWEGO, N.Y.—Oswego St. Ry. Co. 2¼ m, 4-8½ g, 45 lb r, 3 c, 23 h. Pres. Jas. F. Johnson, V. Pres. R. J. Oliphant, Sec. Haynes L. Hart, Treas. Robt. G. Post, Gen. Man. James O'Connor.

OTTAWA, ONT.—Ottawa City Passenger Ry. Co. 3 m, 4-8½ g, 30 lh r, 9 c, 40 h. Pres. Thomas C. Keefer, V. Pres. R. Blackburn, Sec. James D. Fraser.

OTTUMWA, IA.—Ottumwa St. R.R. Co. 2 m, 3-6 g, 27 lh r, 4 c, 2 h, 14 mu. Pres. J. M. Hedrick, Sec. & Treas. H. L. Hedrick, Supt. C. M. Hedrick.
Mineral Springs St. Ry. 1 m, 3½ g, 16 lb T r, 1 c 4 h. Owner, L. E. Gray.

PARIS, TEX.—Paris Ry. Co. 1½ m, 4-8½ g, 22 lb r, 2 pass. 4 ft c, 16 mu. Pres. I. M. Daniel, Sec. Geo. M. Daniel. Treas. D. J. Latimer, Supt. C. G. Caviness.

PATERSON, N. J.—Paterson & Passaic R.R. Co. 7 m, 4–10 g, 33 lb r, 16 c, 24 h. Pres. John N. Terhune, Treas. John I. Brown, Sec. E. S. Brown, Man. & Pur. Agt. Ambrose T. King, Supt. M. O. Rourke.
Paterson City R.R. Co. 6½ m, 4-8½ g, 35 lb r, 12 c, 31 h. Pres. Garrett Planten, Treas. Helmas Romaine, Sec. Albert A. Wilcox.

PAWTUCKET, R. I.—Pawtucket St. Ry. Co. 8 m, 54 lb r.

PENSACOLA, FLA.—Pensacola St. Ry. Co.

PEORIA, ILL.—Central City Horse Ry. Co. 4½ m, 4-8½ g, 40 lh r, 60 c, 135 h. Pres. H. R. Woodward, Sec. M. Pfeiffer, Treas. Elliot Callender, Supt. John Strong.
Fort Clark Horse Ry. Co.—m, —g, —lb r, —c, —h.—Pres. J. H. Hall.
Peoria Horse Ry. Co. 7½ m, 4-8½ g, 40 lb r, 63 c, 140 h. Pres. H. Woodward, Sec. M. Pfeiffer, Treas. H. N. Wheeler, Supt. John Strong.

PETERSBURGH, VA.—Petersburgh St. Ry. Co. 3¾ m, 4-8½ g, 42 lh r, 9 c, 44 h. George Beadle, Pro-

PHILADELPHIA, PA.—Citizens Pass. Ry. Co. 10½ m, 5-2 g, 45-47 lh r, 92 c, 420 h. Pres. John McCarthy, Sec. & Treas. J. J. Adams, Sup. Sam'l Cline.
Frankford & Southwark Phila. City Pass. R.R. Co. 18 m, 5-2 g, 47 lb r, 102 c, 8 dummy c, 618 h. Pres. Alfred Smith, Sec. & Treas. Geo. S. Gandy, Supt. W. H. Janney.
Hestonville, Mantua & Fairmount Pass. R.R. Co. 20 m, 6-2 g, 43 lb r, 50 c, 480 h. Pres. Charles F. Lafferty, Sec. & Treas. W. C. Foster.
Lehigh Ave. Pass. Ry. Co. Pres. John Lamon, Sec. Chas. A. Porter, Treas. John L. Hill. [Track not laid.]
Lombard & South Sts. Pass. Ry. Co. — m, 5-2 g, 43 lh. r, 51 c, 278 h. Pres. John B. Parsons, Sec. & Treas. Francis Hazelhurst, Supt. Jno. M. Gaughen.
People's Pass. Ry. Co. 44 m, 5-2g, 47 lh r, 125 c, 1,080 h. Pres. C. J. Harrah, V. Pres. C. J. Harrah, Jr., Sec. & Treas. Jno. C. Dessalet, Supt. Wm. Hagenswiler.
Philadelphia City Pass. Ry. Co. 7 m, 5-2½ g, 47 lb r, — c, — h. Pres. Wm. W. Colket, Sec. & Treas. T. W. Pennypacker. (Leased to Phila. Traction Co.)
Philadelphia Traction Co. 109 m. 5 2½ g, 45-78 lb r, 594 c 2,942 h. Pres. W. H. Kemble. V. Pres. P. A. B. Widener & W. L. Elkins, Treas D. W. Dickson.
Philadelphia & Gray's Ferry Pass. R.R. Co. 10 1-3 m, 40 c, 200 h. Pres. Matthew Brooks, Treas. J. C. Dawes, Sec. J. Crawford Dawes, Supt. Patrick Lovett.
Ridge Avenue Pass. Ry. Co. 14 m, 5-2 g, 47 lb r, 55 c, 352 h. Pres. E. B. Edwards, V. Pres. John Lambert, Sec. & Treas. Wm. S. Blight, Supt. Wm. Ingles.

Second & Third Sts. Pass. Ry. Co. 37 m, 116 c, 669h. Pres. Alexander M. Fox, Treas. William F. Miller, Sec. Charles D. Matlack, Supt. David W. Stevens.

Seventeenth & Nineteenth Sts. Pass. Ry. Co. 7¼ m. Pres. Matthew S. Quay, Sec. & Treas. John B. Peddle. [Leased to Philada. Traction Co.]

Thirteenth & Fifteenth Sts. Pass. Ry. Co. 14 m, 5-2 g, 43 lb r. 73 c, 452 h. Pres. Thos. W. Ackley, Sec. & Treas. Thos. S. Harris, Supt. Wm. B. Cooper.

Union Pass. Ry. Co. 70 m, 348 c, 1,724 h. Pres. Wm. H. Kemble, Sec. & Treas. John B. Peddle, Supt. Jacob C. Petty. (Leased to Phila. Traction Co.)

West Philadelphia Pass. Ry. Co. 18½ m, 122 c, 646 h. Pres. Peter A. B. Widener, Sec. & Treas. D. W. Dickson. (Leased by the Phila. Traction Co.)

PHILLIPSBURGH, N. J.—Phillipsburgh Horse Car Ry. Co. 2½ m, 4-8 g, 35 lb r, 4 c, 13 h. Pres. Daniel Runkle, Sec. & Treas. James W. Long.

PITTSBURGH, PA.—Central Pass R.R. Co. 3 m, 16 c, 95 h. Pres. J F. Cluley, Sec. F. L. Stephenson, Treas. E. R. Jones, Supt. R. G. Herron.

Beaver Falls & New Brighton Ry. Co.

Citizens' Pass. Ry. Co. 16½ m, 5-2½ g, 47 lb r, 40 c, 337 h. Pres. Jno. G. Holmes, Sec. C. M. Gormly, Supt. Murry Verner.

Federal St. & Pleasant Valley Pass. Ry. Co. 26 m, 5-2½ g, 46-50 lb r, 20 c, 154 h. Pres. Wm. H. Creery, Sec. R. F. Ramsey, Treas. James Boyle, Supt. Wm. J. Crozier, Allegheny City.

People's Park Pass. Ry. Co. 2 m, 5-2½ g, 45 lb r, 10 c, 75 h. Pres. Wm. McCreery, Sec. R. F. Ramsey, Treas. James Boyle, Supt. Wm. J. Crozier, Allegheny City.

Pittsburgh, Allegheny & Manchester Pass. Ry. Co. 5 m. 5-2½ g, 46 lb r, 40 c, 275 h. Pres. Chas. Atwell, Sec. & Treas. Chas. Seibert, Supt. James C. Cotton. Manager J. P. Speer.

Pittsburgh, Oakland & East Liberty Pass. Ry. Co. 11 m, 5-4¼ g, 47 lb r, 32 c, 110 h, 61 mu. Pres. J. T. Gordon, Sec. John G. Traggardh, Treas. A. W. Mellon, Supt. H. M. Cherry.

Pittsburgh Union Pass. R.R. Co. 5 m, 5-2½ g, 45 lb r, 29 c. 170 h. Pres. Chas. Atwell, Supt. James C. Cotton, Sec. & Treas. Chas. Seibert, Cash. Saml. C. Hunter.

Pittsburgh & Birmingham Pass. R.R. Co. 3½ m, 5-2½ g, 48 lb r, 20 c, 170 h. Pres. W. W. Patrick, Sec D. F. Agnew, Treas. John G. Holmes.

Pittsburgh & West End Pass. Ry. Co. 3½ m, 5-2 g, 35 lb r, 13 c, 75 h. Pres. John C. Reilly, Scc. & Treas. Thomas S. Bigelow, Supt. William J. Burns.

Pittsburgh & Wilkinsburg St. Ry. Co.

Second Avenue Pass. Ry. Co. 3½ m, 5-2½ g, 47 lb r, 8 c, 60 h. Pres. Geo. Fawcett, Sec. Jas. F. Fawcett, Treas W. J. Fawcett.

South Side Pass. R.R. Co. 2½ m, 5-2½ g, 45 lb r, 12 c, 80 h. Pres. D. Z. Brickell, Scc. & Treas. W. T. Wallace, Supt. W. M. Roshorough.

Transverse Pass. Ry. Co. 6½ m, 5-2 g, 52 lb r, 39 c, 243 h. Pres. C. L. Magee, V. Pres. C. F. Klopier, Sec. & Treas. Wm. R. Ford, Supt. Miller Elliot.

PITTSTON, PA.—Pittston St. R.R. Co. 1¾ m, 3 c, 5 h. Pres. Thomas Griffith, Treas. M. W. Morris, Scc. William Allen.

PORT HURON, MICH.—Port Huron St. Ry. Co. 6¼ m, 4-8½ g, 7 c, 22 h. Pres. Jno. P. Sanborn, V. Pres Frank A. Beard, Sec. Treas. & Man. J. R. Wastell.

PORTLAND, ME.—Ocean St. R.R. Co.

Portland R.R. Co. 7½ m, 4-8½ g, 30-33-45 lb r, 34 c, 154 h. Pres. H. J. Libby, Treas. & Gen. Man. E. A. Newman, Supt. Geo. W. Soule.

PORTLA D, ORE.—Portland St. Ry. Co. 2 m 3-6 g, 25-42 lb r, 11 c, 40 h. Pres. D. P. Thompson, Sec. & Supt. C. K. Harbaugh.

Multnomah St. Ry. Co. 2¾ m, 3-6 g, 30 lb r, 19 c, 65 h. Pres. A. N. King, Scc. E. A. King.

Transcontinental St. Ry. Co. 7 m. 3-6 g, 38lbr, 15 c, 65 h. Prest. Walter F. Burrell, D. W. Wakefield, Sec., Tyler Woodward, Supt.

PORTSMOUTH, O.—Portsmouth St. R. R. Co. 2 m, 3-6 g, 18 lb r, 4 c, 10 h. Pres. James Skelton, Treas., Sec. & Supt. Enas Reed.

POTTSVILLE, PA.—People's Ry. Co. 9½ m, 16c, 56h.

POUGHKEEPSIE, N. Y.—City R.R. of Poughkeepsie. 4 m, 4-8½ g, 35-42 lb r, 11 c, 38 h. Pres. Geo B. Adriance V. Prcs. & Treas. Hudson Taylor Sec. A. B. Smith, Supt. C. M. Davis. Office 491 Main St.

PROVIDENCE, R. I.—Union R.R. Co. 53 m, 4-8½ g, 47-54 lb r, 230 c, 1,300 h. Prcs. Jesse Metcalf, V. Prcs. & Gen. Man. D. F. Longstreet. Sec. and Treas. C. A. Babcock.

QUEBEC, CAN.—Quebec St. Ry. Co. 3 m, 4-8½ g, 55 lb r, 9 c, 40 h. Pres. Chas. St. Michel, Quebec, V. Pres. G. R. Renfrew, Quehec, Sec., Treas. & Supt. Samuel Moore.

Quebcc R.R. Co.

St. John St. Ry. Co. 1½ m, 4-8½ g, 35 lb r, 4 c, 23 h. Pres. Jos. W. Henry, V. Prcs. A. Robertson, Sec. & Man. W. W. Martin.

QUINCY, ILL.—Quincy Horse Ry. &; Carrying Co. 6 m, 5 g, 71 lb r, 21 c, 118 mu. Pres. Lorenzo Bull, Sec. C. H. Bull, Supt. E. K. Stone.

RACINE, WIS.—Belle City St. Ry. Co. 4 m 4 g 30 lb r, 9 c—40 h. Pres. John T. Fish, Sec. & Treas. E. S. Dodge,. Gen. Man. Geo. B. Hathaway.

RAPID CITY, DAK.—Rapid City St, Ry. Co. Pres Fred. T. Evans.

READING, PA.—Reading City Pass. Ry. Co. 2 1-5 m, 5-2½ g, 45 lb r, 19 c, 44 h. Pres. B. F. Owen, V. Pres. Jas. L. Douglass, Sec. & Treas. H. A. Muhlenberg, Supt. J. A. Riggs.

Perkiomen Ave. Pass. Co. 2 1-5 m, 5-2½ g, 46 lb r, 13 c, 41 h. Pres. Chas. Brenelser, Sec. & Treas. Isaac Hiester, Supt. John B. Houp.

RED OAK, IA.—Red Oak St. R.R. Co. 1½ m, 4-2½ g, flat r, 2c, 2h, 2 mu. Pres. J. W. Judkins, V. Pres. G. West, Sec. F. M. Byrket, Treas. & Supt. F. O. Judkins.

RICHMOND, IND.—Richmond City Ry. Co. 3 m, 8 g, 9 lb r, 10 c, 30 h. Pres. J. Y. Miller, V. Pres. Jos. Rutliff, Treas. H. I. Miller, Supt. F. M. Francisco.

RICHMOND, ILL.—Richmond St. R.R. Co.

RICHMOND, VA.—Richmond City Ry. Co. 7½ m, 4 8½ g, 30-45 lb r, 40 c, 180 h. Pres. J. L. Schoolcraft, Sec. & Treas. Walter Kidd, Man. C. M. Bolton, Supt. Charles Selden.

Richmond & Manchester Ry. & Imp. Co., 2½ m, 26 h, 4 c. Supt. B. R. Selden.

ROCHESTER, N. Y.—Rochester City & Brighton R.R. Co. 37 m, 4-8½ g, 25-30-45 lb r, 142 c, 596 h. Pres. Patrick Barry, Sec. C. C. Woodworth, Treas. C. B. Woodworth, Supt. Thomas J. Brower.

Citizens' St. Ry. Co. Pres. Wm. H. Jones, Sec. & Treas. J. E. Pierpont, Supt. S. A. Green.

ROCKFORD, ILL.—Rockford St. Ry. Co. 6 2-5 m, 4-8½ g, 30 lb r, 13 c, 52 h, 16 m. Pres. Anthony Halnes, V. Pres. L. Rhodes, Sec. Miss A. C. Arnold, Treas. N. E. Lyman, Supt. Fred. Haines.

ROCK ISLAND, ILL.—Rock Island & Milan St. Ry. Co. 7 m, 4-8½ g, 20-30-42 lb r, 10 c, 7 h. Pres. & Supt. Bally Davenport, Sec. E. H. Hunt, Treas. J. F. Robinson, 2 m, with horses, 5 m, with motor.

RONDOUT, N. Y.—Kingston City R. R. Co. 3 m, 4-8½ g, 40 lb r, 10 c, 40 h. Pres. James G. Lindsley, V. Pres. S. D. Coykendoll, Sec. & Treas. John C. Romeyee, Supt. Wm. H. DeGarmo.

SACRAMENTO, CAL.—Sacramento City Ry. Co. 12 1-horse and 10 2-horse c. Prop. R. S. Carey, Supt. Geo. W. Carey.

SAGINAW, MICH.—City of Saginaw St. R. R. Co. 2½ m, 4-8½ g, 42 lb r, 10 c, 50 h. Pres. David H. Jerome, V. Pres. Geo. F. Williams, Sec. & Treas. Geo. L. Burrows, Supt. Fred G. Benjamin.

SALEM, MASS.—Salem & Danvers St. Ry. Co. 6 m, 4-8½ g, 35-47 lb r, 15 c, 45 h. Pres. Benj. W. Russell, Sec. G. A. Vickery, Treas. Geo. W. Williams, Supt. W. B. Furgurson, Asst. Supt. David N. Cook.

Naumkeag St. Ry. Co. — m, 4-8½ g, 30-35-45 lb r, 50 c, 140 h. Pres. Chas. Odell, Clerk Joseph F. Hickey, Treas. Henry Wheatland, Supt. Willard B. Ferguson.

SALINA, N. Y.—Woodlawn and Butternut St. Ry. Co.

SALT LAKE CITY, UTAH.—Salt Lake City R.R Co. 13 m, 4-8½ g, 20 lb r, 20 c, 115 mu. Pres. John Taylor, Sec. David McKenzie, Treas. James Jack, Supt. Orson P. Arnold.

SAN ANTONIO, TEX.—San Antonio St. Ry. Co. 15 m. 4 g, 30 lb r, 38 c, 125 mu. Pres. A. Belknap, San Antonio, V. Pres. F. W. Pickard, N. Y. City, Treas 1. Withers, San Antonio, Sec. E. R. Norton, Supt John Robb.

Prospect Hill St. Ry. Co.

SANDUSKY, O.—Sandusky St. Ry. Co. 2 m, — g, — lb r, — c, — h. Pres. Chas. B. Ods, Sec. & Treas. A. C. Morse, Supt. Clark Rude.

SAN FRANCISCO, CAL.—California St. R.R. Co.

Central R. R. Co. 12 m, 5 g, 45 lb r, 31 c, 290 h, Pres. Chas. Main, V. Pres. S. C. Bigelow, Treas. A. J. Gunnison, Sec. C. V. LeBreton, Supt. J. F. Clark.

Clay St. Hill R. R. Co. 1 m. 3-6 g, 30 lb r, 11 c, 12 dummy cars. Pres. Joseph Britton, V. Pres. James Moffit, Treas. Henry L. Davis, Sec. Chas. P. Campbell, Supt. Joseph Britton.

Clay St. Park & Ocean R.R. Co.

Market St. Cable Ry. Co. 10 9-10 m, 4-8½ lb r, 137 c, 2 motors, 73 h. Pres. Leland Stanford, V. Pres. Chas. F. Crocker, Treas. N. T. Smith, Sec. J. L. Willcutt Supt. H. D. Morton.

North Beach & Mission R.R. Co. 8 m, 5 g, 46 c, 400 h. Pres. Carl Ahpel, Sec. H. W. Hathorne, Treas. Wm. Alvord, Supt. M. Skelly.

Omnibus R.R. & Cable Co. 8¾ m, 5 g, 35-45 lb r, 50 c, 364 h. Pres. Gustav Sutro, V. Pres. D. Callaghan, Sec. G. Ruegg, Supt. M. M. Martin.

Portrero & Bay View R.R. Co. 1¾ m, 5 g, 35 lb r, 20 c, 64 h. Pres. Leland Stanford, V. Pres. Cbas. Crocker, Treas. N. T. Smith, Sec. J. L. Willcutt.

Sutter St. R.R. Co. 5¾ m, 4-11 g, 35-45 lb r, 40 c, 180 h. Pres. R. F. Morrow, Sec. A. K. Stevens, Treas. M. Schmitt, Supt. James McCord.

Telegraph Hill R.R. Co. 1,700 ft, 4-11 g, 36 lb r, 2 c, — h. Pres. Gustave Sutro, V. Pres. C. Kohler. Sec. & Supt. Chas. J. Werner.

The City R.R. Co. 11 m, 6 g, 45 lb r, 72 c, 280 h. Prcs. R. R. Woodward, V. Pres. Geo. E. Raum, Sec. M. E. Willis, Treas. Jas. H. Goodman, Supt. William Woodward.

SAN JOSE, CAL.—San Jose & Santa Clara R.R. Co.

First St. & San Pedro St. Depot R.R. Co.

Market St. & Willow Glen R.R. Co.

North Side R.R. Co.

People's R.R. Co.

SANTA BARBARA, CAL.—Santa Barbara St. R.R. Co. 1 m, 3-6 g, 3 c, 8 mu. Pres. A. W. McPhail.

SARNIA, CAN.—Sarnia St. Ry. Co. 2½ m, 4-8 g, 32 lb r, 2 c, 9 h. Pres. J. F. Lister, Sec. & Treas. Thos. Symington, Supt. Henry W. Mills.

SAUGATUCK, CONN.—Westport & Saugatuck Horse R.R.

SAVANNAH, GA.—City & Suburban Ry. Co. 18½ m, 5 g. 16-30 lb r, 49 c, 110 h, 3 engines. Pres. J. H. Johnson, Asst. J. W. Alley. Treas. E. Schmidt.

Coast Line R.R. Co. 7 m, 5 g, 30 lb r, 17 c, 37 h. Pres. Geo. Parsons, New York, Sec., Treas. & Gen. Man. R. E. Cobb, Savannah.

SAYRE, PA.—Sayre St. Ry. Co. Pres. Howard Elmer. Not in operation.

SCRANTON, PA.—People's St. Ry. Co. 9¾ m, 4-8½ g, 25-52 lb r, 19 c, 70 h. Pres. Wm. Matthews, Sec. & Treas. J. C. Platt.

SEARCY, ARK.—Searcy & West Point R.R. Co, 8 m, 4-8½ g, 20 lb r, 7 c, 6 mu. Pres. A. W. Yarnell. Sec. W. H. Ligbtle, Treas. Jasper Hicks.

SEATTLE, W. T.—Seattle St. Ry. Co. 3½ m, 4-8½ g, 35 lb r, 5 c, 20 h. Pres. F. H. Osgood Sec. Geo. Kinnear.

SEDALIA, MO.—Sedalia St. Ry. Co. 2¼ m, 4-10 g, 22 lb r 6 c 25 h. Pres. Joseph D. Sicher, V. Pres. Louis Deutsch, Treas. F. H. Guenther, Sec. Chas. S. Conrad.

SELMA, ALA.—Selma St. R.R. 2½ m, 18 lb r, 5 c, 8 h. Pres. E. Gilman, Sec. & Treas. J. H. Hollis, Supt. W. Bohlla.

SENECA FALLS, N. Y.—Seneca Falls & Waterloo Ry. Co. 7 m, 4-8½ g, 40 lb r, 4 c, dummies.

SHERMAN, TEX.—Sherman City R.R. Co. 3½ m 5 g, 20 lb r, 7 c, 32 mu. Pres. C. W. Batsell, Treas J. M. Batsell. Sec. C. W. Batsell, Jr.

SHREVEPORT, LA.—Shreveport City R.R. Co. 1¾ m, 4-4 g, 46 lb r, 6 c. 14 h. Pres. Peter Youree.

SILVER CLIFF, COL.—Silver Cliff St. R.R. Co.

SIOUX CITY, IA.—Sioux City St. Ry. Co. 5 m, 4 g, — r, 8 c, 52 mu. Pres. Fred. T. Evans, V. Pres. D. A. Magee. Sec. & Treas. Fred Evans, Jr.

SOUTH BEND, IND.—South Bend Railway, South Bend and Mishawauka St. Ry. Co.

SOUTH CHICAGO, ILL.—Chicago Horse & Dummy R.R. 5 m, 4-8½ g, — lb r, — c, — h. Pres. D. L. Huff, Treas. A. C. Calkins, Sec. E. R. Bliss. [Not in operation.]

South Chicago City Ry. Co, 4 c, 8 h. Pres. Andrew Rehm, Sec. & Supt. A. Krimbill, Treas H. Shearrer.

SOUTH PUEBLO, COL.—Pueblo St. R.R. Co.

SPRINGFIELD, ILL.—Citizens' St. R.R. Co. 9¾ m, 3 6 g, 20-36 lb r, 29 c, 100 b. Pres. J. H. Schrick, Treas. Frank Reisch, Sec. Chas. F. Harman.

Springfield City Ry. Co.

SPRINGFIELD, MASS.—Springfield St. Ry. Co. 4-8½ g, 33-40 lb r, 30 c, 120 h. Pres. John Olmstead, Auditor L. E. Ladd, Clerk Gideon Wells, Treas. A. E. Smith, Supt. F. E. King.

SPRINGFIELD, MO.—The People's Ry. Co. of Springfield, Mo. 3½ m, 4-10 g, 33 lb r, 5 c, 30 h. Pres. J. C. Cravens, Sec. Benj. N. Massey, Treas. Chas. Sheppard, Supt. H. F. Denton.

Springfield R.R. Co. 2 m, 30-40 lb r, 4-8½ g, 7 c, 19 h, 19 mu. Pres. C. W. Rogers, St. Louis, Sec. & Treas. B. F. Hobart, Supt. J. A. Stoughton, No. Springfield.

SPRINGFIELD, O.—Citizens' St. R.R. Co. 10 m, 4 g, 29 c. 135 h. Pres. D. W. Stroud, V. Pres. A. S. Bushnell, Treas. Rose Mitchell, Sec. F. S. Penfield, Supt. W. H. Hanford.

STATEN ISLAND, N. Y.—Staten Island Shore Ry. Co.

ST. CATHARINE'S, ONT.—St. Catharine's, Merriton & Thorold St. Ry. Co. 5¾ m, 4-8½ g, 30 lb r, 8 c, 32 h. Pres. E. A. Smyth, Sec. S. R. Smyth, Supt. E. A. Smyth.

ST. JOSEPH, MO.—Citizens' St. R.R. Co. 3 m, 4-8½ g, 28 lb r, 14 c, 52 mu. Pres. Richard E. Turner, Sec. & Treas. Arthur Kirkpatrick, Supt. John F. Merriam.

Frederick Ave. Ry. Co. 1½ m, 3 g, 16 lb r, 6 c, 16 h. Pres. Thos E. Tootle, V. Pres. Winslow Judson, Sec. W. D. B. Motter, Treas. Thos W. Evins, Sup. S. Rowen.

St. Joseph & Lake St. R.R. Co.

Union Ry. Co.

ST. LOUIS, MO.—Baden & St. Louis R.R. Co. 3½ m, 4-10 g, — lb r, 7 c, 21 h. Pres. George S. Case, V. Pres. William Z. Coleman, Supt. J. H. Archer.

Benton & Bellefontaine Ry. Co. 7¾ m, 4-10 g, 45 lb r, 29 c, 200 h. Pres. J. G. Chapman, V. Pres. Chas. Parsons, Sec. & Treas. Robert McCulloch.

Cass Avenue & Fair Grounds Ry. Co. 8½ m, 4-10 g, 38 lb r, 39 c, 285h. Pres. W. R. Allen, V. Pres. Geo. W. Allen, Sec. & Treas. J. W. Wallace, Supt. G. G. Gibson, Cashier O. H. Williams.

Citizen's Ry. Co. —m, —g, —lb r, —c, —h. Pres. Julius S. Walsh, V. Pres. J. P. Helfenstine.

Forest Park, Laclede & Fourth St. Ry. Co. Pres. Chas. H. Turner, Sec H. B. Davis.

Jefferson Ave. Ry. Co. Pres. John M. Gelkeson, Gen. Man. John Scullin, Sec. C. K. Dickson.

Lindell Ry. Co. 13½ m, — g, — r, 65 c, 475 h. Pres John H. Maquon, V. Pres. John H. Lightner, Sec. & Treas. Geo. W. Baumhoff, Supt. Jos. C. Llewellyn.

Northern Central.

Missouri R.R. Co. —m, —g, —lb r, —c, —h. Pres. P. C. Maffit, Sec. W. D. Henry.

Mound City R.R. Co. Pres. John. Scullin, Sec. & Treas. C. M. Seaman, Supt. Jas. Sullivan.

People's Line. Pres. Chas. Green, Sec. John Mahoney, Supt. Patrick Shea.

Southern Ry. Co. 7 4-5 m, 4-10 g, 35-52 lb r, 49 c, 250 V. Pres. E. R. Coleman, Sec. J. S. Minary, Man. W. L. Johnson.

St. Louis R.R. Co. 11 m, 4-10 g, 38-44 lb r, 58 c, 375 h. Pres. C. Peper, Sec. & Treas. R. B. Jennings, Supt. Chas. Ischer.

St. Louis Cable & Western Ry. Co. Pres. M. A. Downing, V. Pres. F. M. Colburn, Sec. & Treas. E. F Claypool, Man. Geo. F. Branbam.

Tower Grove & Lafayette Ry. Pres. Chas. Green, Sec. John Mahoney, Supt. Patrick Shea.

Union Depot R.R. Co. —m, —g, —lb r, —c, —h. Pres. John Scullin, V. Pres. & Treas. C. M. Seaman, Supt. Jas. H. Roach.

Union Ry., Co. Pres. Julius S. Walsh, V. Pres. J. P. Helfenstine, Sec. & Treas. M. J. Moran, Supt. Michael Moran.

STONEHAM, MASS.—Stoneham St. R.R. Co. 2½ m, 4-8½ g, 33 lb r, 10 c, 28 h. Pres. A. V. Lynde, Melrose. Treas. & Clerk Lyman Dyke, Supt. John Hill.

ST. PAUL, MINN.—St. Paul City Ry. Co. 37 m, 4-8½ g, 45-52 lb r, 82c, 600 h. & mu. Pres. Thos. Lowry, V. Pres. C. G. Goodrich, Sec. A. Z. Levering, Treas. Clinton Morrison, Supt. A. L. Scott.

STILLWATER, MINN.—Stillwater St. Ry. Co.

STILLWATER, N. Y.—Stillwater & Mechanicsville St. Ry. Co. 4½ m, 4-8½ g, 25-30 lb r, 3 c, 6 h. Pres. S. Rowley, V. Pres. W. L. Denison, Sec. Edw. I. Wood, Treas. E. H. Smith.

STROUDSBURGH, PA.—Stroudsburgh Passenger R.R. Co. 1 4-5 m, 4 8½ g, 28-30 lb r, 3 c, 9 h. Pres & Treas. J. Lantz, Sec. Jacob Ilouser.

SYRACUSE, N. Y.—Syracuse & Onondaga R.R. Co. 2 3 5 m, 4-8 g, 28-47 lb r, 9 c, 18 h. Pres. Peter Burns, Sec. & Treas. Lyman C. Smith, Supt. W. B. Thompson.

Central City Ry. Co. 2¼ m, 4-8½ g, 40 lb r, 12 c, 37 h. Pres. Daniel Pratt, V. Pres. Jonathan C. Chase, Sec. & Treas. James Barnes, Supt. George Crampton. 4 Syracuse Savings Bank Building.

Fifth Ward R.R. Co. 2¾ m, 4-8½ g, 35-56 lb r, 8 c, 30 h. Pres. P. B. Brayton, Sec. & Treas. O. C. Potter, Supt. Hugh Purnell. Office W. Washington St.

Geddes St. Ry. Co.

Genesee & Water St. R.R. Co. and Fourth Ward R.R. Co. 4 m, 4-8½ g, 18-30 lb r, 10 c, 35 h. Pres. Robt. G. Wynkoop, Sec. & Treas. Geo. J. Gardiner, Supt. W. J. Hart. Onondaga Savings Bank Building.

New Brighton & Onondaga Valley R.R. Co. 1¾ m, 4-8 g, 16 35 lb r, 2 c, 6 h. 1 dummy. Pres. Matthias Britton, Sec. T. W. Meacham, Treas. J. H. Anderson. Supt. J. H. Anderson.

Seventh Ward Ry. Co.

Syracuse & Geddes Ry. Co. 2.8 m, 4-8½ g, 35-45 lb r, 10 c, 32 h. Pres. R. Nelson Gere, Sec. & Treas. Rasselas A. Bonta, Supt. Wm. J. Hart.

Third Ward Ry. Co. Pres. W. B. Cogswell, Sec. & Treas. W. S. Wales.

TAUNTON, MASS.—Taunton St. Ry. Co. 4¼ m, 4-8 g, 14 c, 44 h.

TERRE HAUTE, IND.—Terre Haute St. Ry. Co. 4¼ m, 4-8½ g, 28 lb r, 16 c, 48 h. Pres. T. C. Buntin,

Pres. Josephus Collett, Sec. John R. Hagen, Supt. John T. Shriver.

TEXARKANA, ARK.—Texarkana St. Ry. Co.

TOLEDO, OHIO.—Toledo Consolidated St. Ry. Co. 17½ m, 4-8 g, 42½ lb r, 41 c, 200 h. Pres. J. E. Bailey, Sec. A. E. Lang.

Adams Street Ry. Co.

Metropolitan St. Ry. Co. 10 m, 3 g, 28-35 lb r, 31 c, 101 h. Pres. & Sec. Jno. J. Shipherd of Cleveland, Treas. H. E. Wells of Cleveland, Gen. Man. T. F. Shipherd, Supt. Jno. A. Watson.

Monroe Street R.R.

The Central Passenger R.R. Co. of Toledo, O. 8 m, 3 g, 27 lb r, 17 c, 70 h. Pres. F. E. Seagrave, Treas. & Man. A. R. Seagrave, Supt. Joseph Murphy.

TOPEKA, KA —Topeka City Ry. Co. 9 m, 4 g, 25-48 lb r, 25 c, 90 h. Pres. Joab Mulvane, V. Pres. D. W. Stormont, Sec. & Treas. E. Wildes, Supt. Jesse Shaw.

TORONTO, CAN.—Toronto St. Ry. Co. 60 m, 4-10¾ g, 30 lb r, 160 c, 750 h. Pres. Frank Smith, Sec. James Gunn, Supt. John J. Franklin.

TRENTON, N. J.—Trenton Horse R.R. Co. 1¾ m, 5-2 g, 43-47 lb r, 10 c, 31 h. Pres. Gen. Lewis Perrine, Sec. & Treas. Lewis Perrine, Jr, Supt. Thomas Sillorris.

City Ry. Co. 7 m, 5-2½ g, 35 lb r, 19 c, 110 h&m. Pres. Adam Exton, V. Pres. W. H. Skirm, Sec. H. B. Howell, Treas. & Mang. Director Chas. Y. Bamford.

TROY, N.Y.—Cortland & Homer Horse R R. Co. 4 m, 4-8½ g, 25-30 lb r, 2 c, ——h. Pres. C. H. Garrison, Troy, V. Pres. E. A. Fish, Cortland, N.Y., Treas. Jas. M. Milen. Cortland, Sec. S. E. Welch, Cortland.

Troy & Albia Street Ry. Co. 3½ m, 4 g, 35-45 lb r, 9 c, 41 h. Pres. Thos. A. Knickerbocker, Sec. & Treas. Theo. E. Hasiehurst, Supt. W. R. Bean.

Troy & Lansingburgh R.R. Co. 21¾ m, 4-8½ g, 47 lb r, 91 c, 466 h. Pres. William Kemp, V. Pres. Charles Cleminshaw, Sec. & Treas. Joseph J. Hagen, Supt. L. C. Brown, Asst, Supt. C. H. Smith. 295 River St.

URBANA, ILL.—Urbana R.R.

Urbana & Champaign St. Ry. Co. 2 m, 4-8½ g, 33 lb r, 4 c, 20 h. Pres. Wm. Park, Sec. & Treas. Frank G. Jaques, Supt. W. Park.

UTICA, N.Y.—Utica, Clinton & Binghamton St. R.R. 10 1-3 m, 4-8½ g, 43-56 lb r, 17 c, 82 h. Pres. Isaac Maynard, Sec. & Treas. Robt. S. Williams, Supt. Roger Rock.

The Utica & Mohawk R.R. Co. 3¾ m, 4-8½ g, 25-04 lb r, 9 c, 5 h. Pres. Jas. F. Mann, Sec. Wm. E. Lewis, Treas. J. H, Sheehan.

Utica Belt Line St. Ry. Co.

VAILSBURGH, N. J.—Newark, So. Orange, Ferry St. & Hamburg Place R.R. Co.

VALEJO, CAL.—Valejo St. Ry. Co.

VICKSBURG, MISS.—Vicksburg St. Ry. Co. Hill City R.R. Co.

VINCENNES, IND.—Vincennes St. Ry. Co.

WACO, TEX.—Waco St. Ry. Co. 5 m, 4-8 g, 14-18 lb r, 9 c, 44 h. Pres. E. Rotan, Sec. & Treas. W. R. Kellum, Supt. J. W. Sedbury.

WALTHAM, MASS.—Waltham & Newton St. Ry. Co. 3½ m, 3-8½ g, 30 lb r, 7 c, 18 h. Pres. R. E. Robbins, Sec. & Treas. Henry Bond.

WASHINGTON, D.C.—Capital, No. O. St. & So. Washington R.R. 13¾ m, 4-8 g, 35 lb r, 45 c, 176 h. Pres. C. White, Sec. & Treas. W. E. Boughton, Supt. Andrew Glass.

Anacostia & Potomac River Ry. Co. 3 m, 4-8 g, 37 lb r, 9 c, 24 h. Pres. H. A. Griswold, Sec. Edward Temple, Treas. T. E. Smithson.

Columbia R.R. Co. of the District of Columbia. 2⅝ m, ——g, ——lb r, 19 c, 56 h. Pres. H. A. Willard, Sec. & Treas. Wm. H Clayette, Supt Thos. E. Benson.

Metropolitan R.R. Co. 21½ m, 4-8 g, 38 lb r, 90 c, 400 h. Pres. George W. Pearson, V. Pres. A. A. Wilson, Sec. & Treas. William W. Moore, Supt. L. W. Emmart

Washington & Georgetown R.R. Co. 20 m, 4-8½ g, 42 lb r, 173 c, 850 h. Pres. H. Hurt, Sec. & Treas. C. M. Koones, Gen. Supt. C. C. Saller.

WATERFORD, N. Y.—Waterford & Cohoes R.R. Co. 2 m, 4-8½ g, 45 lb r. Pres. Thos. Breslin, Sec. & Treas. C. C. Ormsby. (Leased by the Troy & Lansingburgh R.R. Co.)

WATERLOO, IA.—Waterloo St. Ry. Co. 2 m, 3 g, 20 lb r, 2 c, 1 baggage wagon, 9 h. Pres. Loran W. Reynolds, Sec. and Treas. J. H. Kuhn, Man. M. K. Kent.

WEST HURON, CONN.—New Haven & West Haven R.R. Co.

WESTPORT, CONN.—Westport & Saugatuck Horse R.R.

WHEELING, W. VA.—Citizens Ry. Co. 10 m, 5-2½ g, 45 lb r, 20 c, 55 h. Pres. Dr. C. A. Wingelter. Sec. Van B. Hall, Supt. Michael Latus.

Wheeling & Elm Grove R.R. 7 m, 4-8¾ g, 30 lb r, 12 c, 4 Baldwin Motors. Pres. J. D. DuBois, Sec. E. J. Rutter, Supt. E. Hirsch.

WICHITA, KAN.—Wichita City Ry. Co. 7½ m, 11 c, 60 mu, 4 h. Pres. B. H. Campbell, V. Pres., Treas. & Gen. Man. E. R. Powell, Sec. G. W. Laramer, Atty. E. C. Ruggles.

WILKESBARRE, PA.—Wilkesbarre & Kingston Pass. R.R.

Wilkesbarre & Ashley Passenger R.R. Co.

Coalville Passenger R.R. 2½ m, 4-8½ g, 20-24 lb r, 4 c, 10 h. Pres. Chas. A. Miner, Sec. & Treas. George Loveland, Supt. Albert G. Orr.

WILLIAMSPORT, PA.—Williamsport St. R.R. Co.

WILMINGTON, DEL.—Front & Union St. Passenger Ry. Co. 1¼ m, 5-2 g, —lb r, 7 c, 20 h. Pres. Geo. W. Bush, Supt. Sam'l A Price, Treas. E. T. Taylor.

Wilmington City Ry. Co. 6 m, 5-2½ g, 45 lb r, 19 c, 80 h. Pres. W. Canby, Sec. & Treas. John F. Miller, Supt. Wm. H. Burnett.

WINDSOR, CAN.—Sandwich & Windsor Passenger R.R. Co.

Windsor & Walkerville Electric Ry. Co.

WINNIPEG, MANITOBA, CAN.—The Winnipeg St. Ry. Co. 5 m, 4-8½ g, 35 lb r, 12 c, 75 h. Pres. Duncan MacArthur, Sec. & Mangr. Albert W. Austin, Supt. Geo. A. Young.

WINONA, MINN.—Winona City Ry. Co. 4 m, 3-6 g, 27 lb r, 10 c, 39 h. Pres. John A. Mathews, V. Pres. B. H. Langley, Sec. & Treas. C. H. Porter.

WOBURN, MASS.—No. Woburn St. Ry. Co. 2½ m, 4 8 ½g, 40 lb. r. 5 c, 4 h. Pres. & Treas. J.R. Carter, Supt. Dexter Carter.

WORCESTER, MASS.—Worcester St. Ry. Co 5¾ m, 4-8½ g, 45 lb r, 19 c, 100 h. Pres. Geo. H. Seeley N. Y. City, V. Pres. Nathan Seeley, N. Y. City, Treas & Supt. Harry S. Searls, Worcester.

Citizens' St. Ry. Co. Pres. Chas. B. Pratt, Sec. & Treas. F. W. Brigham.

WYMORE, NEB.—Wymore and Blue Springs Ry. Co. 2¾ m. 3-6 g, 3 c, 8 h. Pres. E. P. Reynolds, Rock Island, Ill., V. Pres. I. H. Reynolds, Gen. Man. Ben. Reynolds, Sec. Treas. and Acting Supt. E. P. Reynolds, Jr.

YOUNGSTOWN, O.—Youngstown St. R.R. Co.

ZANESVILLE, O.—Bellaire, Chillicothe & Canton Zanesville & McIntire St. Ry. Co. 3 m, 3-6 g, 38 lb r, 12 c, 54 m. Pres. J. Bergen, Sec. W. C. Townsend Treas. T. B. Townsend.

What Work Is.

I was riding up town in a Third avenue car the other day when a butcher's boy, a lad some 14 years of age, in a hickory shirt and with a battered derby hat on the back of his head, stepped airily upon the back platform and hung his basket on the handle of the brake. He had sandy hair cut close to his head. He was very much freckled, his eyes were pale blue, but keen in their expression, and his nose was of the genus pug. He was smoking a cigarette. For some time he shared the privileges of the platform alone with the conductor, who began talking to the boy about the wrongs of the conductors and their right to strike.

"What are you givin' us?" said the boy; "yer call it hard work to stand out here on the platform and yank a bell? When you ain't doing that, you are inside taking fares, and knockin' 'em down, too. That ain't no work. Just you begin at 4 o'clock in the morning, like me. Open the shop, sweep it out, clean ice-cold fish out of the refrigerator, and never get no chance to warm yourself; then lug big baskets of meat up to the top of flats all day long, and be cussed by the boss because you don't move round faster. That's work. You fellows have struck it soft, you have. You can't talk to me. I ain't no greenhorn." And he jumped off the car and went down the street whistling "The flowers that bloom in the spring."—Phil. Record.

The eighty-third meeting of the New York Electrical Society was held in the rooms of the American Institute, Clinton Hall, June 23. Mr. John M. Pendleton read an interesting paper on electrical railways, accompanied by a diagram of the proposed motor. Mr. Brackon, the attorney and agent in the United States for the celebrated electrician, Edmund Julien, was introduced and gave a brief explanation of Mr. Julien's system as used on the Rue de Loure at Brussels. A contract, according to Mr. Brackon, has already been made with Mr. Julien to have his cars, with their electrical accumulators, placed upon roads in both Philadelphia and this city, probably within the next five weeks. The particular road in this city has not as yet been decided upon, but will no doubt be the Broadway line.

SPECIAL NOTICES.

Rates for Special Notices.

Advertisements of Street Railway Property, "Wanted" or "For Sale," "Positions Wanted" or "Men Wanted," or similar matter inserted under this heading at 10 c. per line, eight words to a line. The name of the advertiser kept confidential when desired. Replies may be addressed "Care of STREET RAILWAY JOURNAL," at its New York, Chicago, Philadelphia and Boston Offices, as is most convenient to the advertisers. Replies will be forwarded, if desired. Excellent results have been realized by advertisements in this department.

WANTED TO BUY, A HORSE RAILROAD. The advertiser desires to learn of a moderate sized street railroad, say 25 to 50 horses. Address, giving full particulars, INVESTMENT, care STREET RY. JOURNAL, 32 Liberty Street, New York.

WANTED.—Position on the construction of street railways. Am thoroughly acquainted with all details, estimates made for same, measurements taken for curves, switches, frogs and crossings of all shapes and angles. Would engage with railway switch works. No objection to going out of the country for few months or year. Address "CONTRACTOR," care ST. RY. JOURNAL, 119 South 4th St., Philadelphia, Pa.

$5000 IN 8 PER CENT. 10 YEAR BONDS FOR sale. Paid up capital $13,000. Entire issue of bonds $10,000, no floating debt. Interest paid semi-annually. Investigation solicited. Address TREASURER, care STREET RY. JOURNAL, 32 Liberty St. New York.

WANTED—Position as Superintendent or Foreman with some good street railroad, by a thoroughly practical and experienced street railroad man who has had 15 years' experience in the business; can refer to some of the most prominent street railroad men of the country. Address R. P. A., care STREET RY. JOURNAL, 32 Liberty St., New York.

WANTED—A man with small capital to invest in a Street Railway, situated in a live town of 15,000 inhabitants. Just struck oil. Three miles of track, well stocked, good barn and everything in good condition. A rare chance if taken at once. For further particulars address, J. H. ROSE, P. O. Box 919, Lima, Ohio.

WANTED—A thoroughly reliable man experienced in Street Railway practice, to organize and manage a company, for the introduction of a new system of propulsion. Patentee will furnish capital. An exceptional opportunity for a man of large street railway acquaintance and with the energy and judgment requisite to success. Address, IXION, STREET RAILWAY JOURNAL Office, 32 Liberty Street, New York City.

FOR SALE—FOUR SUMMER CARS, Good as New. Road has discontinued use of Summer Cars and will sell these at a bargain. Address, FRANKFORD & SOUTHWARK R. R. Co., 2501 Kensington Avenue, Phila., Pa.

WANTED—A party with Capital to take one-half interest in horse and cattle grooming machine, now ready for operation, fully covered by patents. Will sell whole or one-half interest. Full control given in either case. Patentee has other business. Cannot give it his attention. Address, SAFETY, care STREET RAILWAY JOURNAL, 119 South 4th St., Phila., Pa.

FOR SALE—Street Railroad connecting two live Manufacturing towns. Forty horses, 9 cars. We have exclusive franchise for 25 years. New road. Good Business. Address, HORSE RAILROAD, care STREET RAILWAY JOURNAL, 32 Liberty St., New York.

SUPPLIES WANTED—We anticipate building short line Street Railroad, gauge 3½ feet; need two or more light passenger cars and two or more flats and all supplies except Iron. Address, S. W. S., Alvardo, Tex.

FOR SALE—Three NEW one-horse cars, never have been used. Built by Jones of Troy, with Fare Boxes, fitted with Andrews & Clooney wheels. For sale low. The road for which they were built never having been completed. Address "W," this Office.

Notice of Removal.

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Lewis and Fowler Man'f'g Co.,

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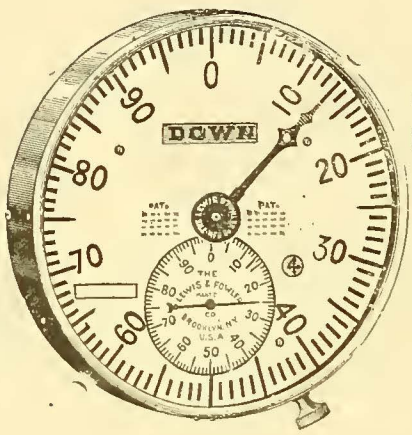
27 to 35 Walworth Street.



31 to 37 & 32 to 40 Sandford Street.

Fifteen Minutes from Brooklyn Bridge via Flushing avenue cars.

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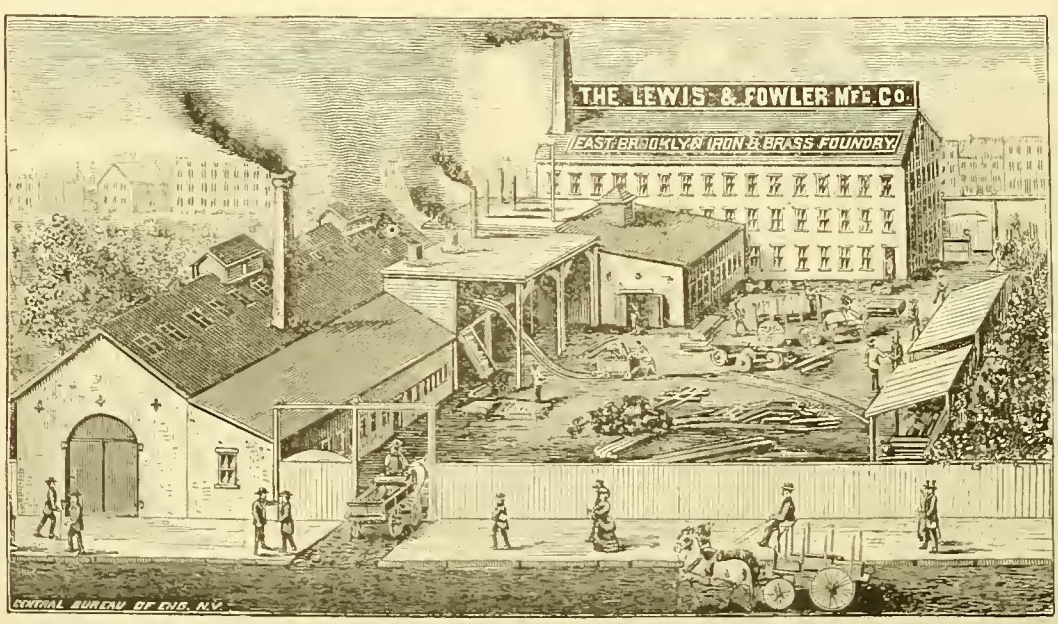

Railroad Supplies.

BROOKLYN, N. Y.