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DATE ON WRAPPER shows the month at the end of which the subscription expires. The sending of remittances for renewal prior to that date will be much appreciated by the publishers.

Of this issue of the Street Railway Journal 8000 copies are printed. Total circulation for 1907 to date, 427,250 copies, an average of 8,216 copies per week.

The New Standard Classification of Accounts

The conference held at the rooms of the Interstate Commerce Commission last week to discuss the standard classification of accounts for electric railway companies was one of the most important events of the year in the street railway industry. This fact was evinced by the attendance at the meeting of the chief executive and accounting officers, and in many cases of both of these officers, of electric railway companies representing a capitalization of about \$2,000,000,000. In fact, it is to be doubted whether

there has ever been a meeting at which the executive and financial officers of the most important street railway interests of the country have been so generally represented, the annual conventions of the American Street and Interurban Railway Association not excepted. It is not surprising, however, that there should have been such an attendance, because any important alteration in the standard classification of operating accounts for electric railway companies carries with it far-reaching consequences. The present system has been in general use for some eight years, so that practically all existing financial records, statistics and blanks of the street railway companies of the country are based upon it. A change in the classification, therefore, if radical, involves not only considerable expense and confusion in the accounting offices of the companies themselves while the new plan is being put into force, but also precludes satisfactory comparisons with previous years until sufficient time has elapsed so that new records and criteria can be established. Concurrently, it involves the destruction in large part of the value of the data compiled during the last eight years by the companies and by the Census Bureau and other statistical departments of the National and State Governments.

To some it may seem surprising that so much importance should be attached to the adoption of a standard classification of accounts by the Interstate Commerce Commission, because comparatively few electric railway companies conduct an interstate business, and no others are under its jurisdiction. The explanation is found, however, in the close relation of the Interstate Commerce Commission with the State commissions, and the expressed intention of at least some of the latter to adopt the classification promulgated by the Interstate Commerce Commission. Members of several of these State commissions were in attendance at the Washington meetings and took part in the discussions, so that the conference was recognized as possessing an importance greater than if confined to a national department only.

Meetings were held in Washington, Tuesday and Wednesday of last week, and, as readers of this paper know, a decision was reached, due to the wishes of the Interstate Commerce Commission, to adopt an entirely new classification of street railway accounts, patterned largely upon the existing steam railroad classification. The extent to which this correspondence will be followed in the tentative form of report, to be submitted for criticism to the street railway companies by the national authorities, will not be wholly known until the official circular is made public. It is understood, however, that schedule "B," of the sub-committee, published last week and which is to serve as a model, will not be followed verbatim, but that many of the suggestions in regard to changes in the accounts, made at the meeting, will be acted upon by the Commission. It

should also be clearly understood that even this classification is tentative and is subject to change in detail after a canvass by the Commission of the opinions of the electric railway companies on the subject. We assume, however, that these changes will not materially alter the proposed plan of the Commission to retain, so far as possible, a general conformance of the new classification to the standard steam classification and a practical abandonment of the existing classification.

It is somewhat difficult to understand the paramount advantages of providing for electric railway companies an accounting system whose principal merit is that it is patterned after that used on steam railroads. The operating methods in the two systems of transportation are so different it would seem that similarity in accounts could be secured only by a sacrifice of convenience and the logical arrangement of many of the accounts. One has only to compare the operating methods of the electrical zone of the New York Central Railroad and of the New York City Railway to realize how widely the methods necessary in one class of road differ from those requisite with the other. Hardly any features of the organization of the transportation departments of the two companies are the same, yet both operate with the same motive power in the same territory, and the New York City Railway Company is one of the largest of the electrical roads, while the electrical division of the New York Central Railroad is devoted largely to a passenger business. We assume, however, that all of these points were given very careful consideration and that the advantages of a change are firmly believed, by those who had the matter in charge, to outweigh all of the manifest and very serious disadvantages. Heretofore the only thought in preparing a classification of accounts for electric railways has been to adopt a system which was best suited for the requirements. In the Washington schedule a new element or factor was made paramount, viz.: similarity to the steam classification—the suitability to the actual requirements of the case coming second. There is no intention here to criticise the decision. The facts are mentioned simply to indicate the tremendous responsibility which now rests upon those who insisted upon the change, to be sure that the future gain will be large enough to recompense both the public and the companies for the loss which each will sustain by the abandonment of the present system.

This course having been decided upon, the next step will be the publication by the Commission of its proposed tentative schedule and the submission of this schedule to the railway companies for their suggestions and criticisms. It is the duty of every company which receives a copy to scrutinize the classification very carefully and to make any suggestions in regard to it which may be of value to the joint committee in charge of the revision. The proper course to pursue is for each company to apply the classification frankly and honestly to its own business, and to endeavor to determine how the schedule can be used in the practical operation of its own road. In fact, it is for this purpose that the classification will be sent to the companies. They should welcome the opportunity of passing upon it, before its final adoption. A careful and complete examination of its application to the conditions of each company and a fair and unbiased statement of the results

are also due the Interstate Commerce Commission, as well as the American Street and Interurban Railway Association, which is represented on the revision committee. No matter how conscientious, able and representative the latter may be, its members cannot be expected to keep in touch with all of the conditions as they exist in every part of the United States, so that this co-operation on the part of every company is necessary to secure the best results.

One important decision made at the meeting last week was that two classifications would be adopted, one for the smaller roads, the other for the larger companies. The line of demarcation was not announced at the meeting, but during the discussion it developed that it would be fixed by the gross receipts per annum, and that the line would probably be drawn somewhere between \$50,000 per annum and \$300,000 per annum. The companies earning more than this amount are to use the amplified schedule, or that containing about 116 accounts, while those whose receipts are below the limit would use the abbreviated classification containing about twenty-one accounts. The present classification, it will be remembered, contains thirty-nine standard accounts, slightly more than the shorter schedule, but vastly less than the amplified schedule.

Whatever limit is adopted, we trust that it will be made reasonably high, certainly not less than the higher figure mentioned above. It is difficult to imagine what good will be accomplished by compelling a company with receipts of less than \$300,000 per annum to keep 116 main accounts. The organization upon a road of this character is necessarily small. Many officers fill several offices and a considerable portion of the charges in the practical operation of the road apply to a number of departments. If, then, an attempt was made by such a company to maintain a classification of 116 accounts the figures would have to contain so many estimations as to make the statistics almost valueless. At the same time the cost of keeping these additional accounts, in extra clerk hire, would amount to at least, say, \$1,000 or \$2,000 per annum per road. As we assume that any statistics compiled from these reports by the Interstate Commerce Commission or any of the State commissions are for the benefit of the public, it seems doubtful whether they would be close enough to the exact facts to warrant this additional expense, the aggregate of which, if multiplied by the large number of small companies, would be very great.

The selection of the limit should not be made to depend upon the number of railway companies under the limit considered. The actual needs of the companies themselves should govern, and the limit should not be set as low as to include any considerable number of the companies which have no practical use for 116 accounts. Indeed, it is a question whether three classifications would not be more desirable than two. At present there is such a wide difference between twenty-one and 116 accounts that it is easy to understand how a company might profitably employ more than twenty-one accounts, but to whom the maintenance of more than a hundred would be an unnecessary hardship.

So long as the final form before publication of tentative classification "B" was not announced at the meeting, we trust that the committee of the Interstate Commerce Commission, which has the matter in charge, will consider the

final draft very carefully so far as radical variations from existing practice are concerned, and will endeavor to avoid such changes where they are not absolutely necessary to carry out the policy announced at Washington. The circular accompanying this tentative classification should then be so worded as to explain very fully, for the benefit of those companies which were not represented at the meeting, the object in making the electric railway classification like the steam, and the advantages to be derived therefrom, so that all of the companies will understand the situation. Finally, when the replies are received and the time for definite action arrives, we trust that the Commission will allow nothing to interfere with the adoption of a classification, which, independent of its general form, will be logical in arrangement, and which can be used by the companies and understood by others.

Caring for Fire Apparatus and Fire Drills in the Shop

Too many master mechanics regard fires as possibilities so very remote that they give no attention whatever to preparation for them. Insurance regulations have resulted in the installation of fire-fighting apparatus in most shops and car houses, but this apparatus is almost useless unless the men are trained how to handle it and unless some attention is given to keeping it in order.

Some master mechanics, however, have about all they can do to maintain the car equipment in good shape, and when there is considerable pressure from above to keep down expenses, they frequently do not feel justified in taking the men away from their regular work in order to fight an imaginary fire or to have a man devote a few hours every month to the care of the fire-fighting apparatus. Such a master mechanic, however, does not fully appreciate the responsibility of his position. The insurance rate on car houses and shops has been placed high because of this lack of appreciation. On no other portion of the system is there so much danger from fires or so much property exposed to danger. He should regard it just as much his duty to protect the car equipment as to maintain it. Not to take proper precautions is gambling with the odds against him.

That the fire-fighting apparatus in shops is not always kept in order may readily be determined by an inspection. One may find the hose detached from the risers or possibly the hose will be found in a tangled-up mass on the floor. Again, because of its age or because of improper care, it is rotten and ready to burst at the least pressure. Extinguishers, too, may be empty as the result of falling from their supports or hooks, or because of not being filled after being used for putting out fires under the cars, due to overheated rheostats. Occasionally water for washing cars or for general purposes is obtained from fire hydrants outside the buildings. In such cases there is possibility of the hydrants being frozen up. The room in which the hose cart is kept is sometimes regarded as a general catch-all, with the result that the cart cannot be pulled out until a quantity of miscellaneous materials is removed.

About the only way to keep the apparatus in condition is to delegate the task to one man and hold him responsible, and this man should be allowed a proper amount of time

to do his work. It would be well, probably, for the same man to see that the hose is properly drained and dried after it has been used. The life of a hose is shortened materially by its return to the racks or reels with water in it.

Even with the apparatus in good shape, untrained men will be very slow in handling it in an emergency. Proper organization of the men into fire-fighting squads and frequent drills are almost as necessary as the apparatus itself. One of the first things to provide is a gong or whistle and definite signals to indicate fire and its location. After the men have been organized, periodic fire drills, possibly once in two weeks or once a month, should be given. It is, to be sure, a great deal of trouble to dry the hose, but occasionally water should actually be thrown on a building, notwithstanding this trouble.

A shop may, of course, continue in operation for years without experiencing a fire, but it should be remembered that at any time the occasion may come, when the master mechanic who is prepared for fires will feel truly grateful for past precautions; and, moreover, it should be a relief at all times to those responsible to feel that they were prepared.

Ventilation of Sub-Stations.

To reduce the transmission of noise to surrounding buildings, sub-stations in cities are sometimes designed with a minimum of openings in their side walls and openings in the roof are provided for ventilation. Where this has to be done the designer of the sub-station should see that the roof ventilators are of liberal area and inlets of some kind for fresh air should be arranged in the lower portion of the building. The designer should also remember that a great deal of heat is generated in the transformers, rotary converters and other apparatus, and that the system of ventilation should provide for the dissipation of this heat. If this precaution is neglected the temperature in the sub-station may easily rise 20 or 25 degrees above that of the outside air. In summer this means a tired and wornout operator, who is likely to give half his attention to worrying about the heat and the lack of interest shown by the company for the comfort of its men. In addition, the excessive heat decreases the efficiency of the apparatus to some extent and also increases the danger of burn-outs.

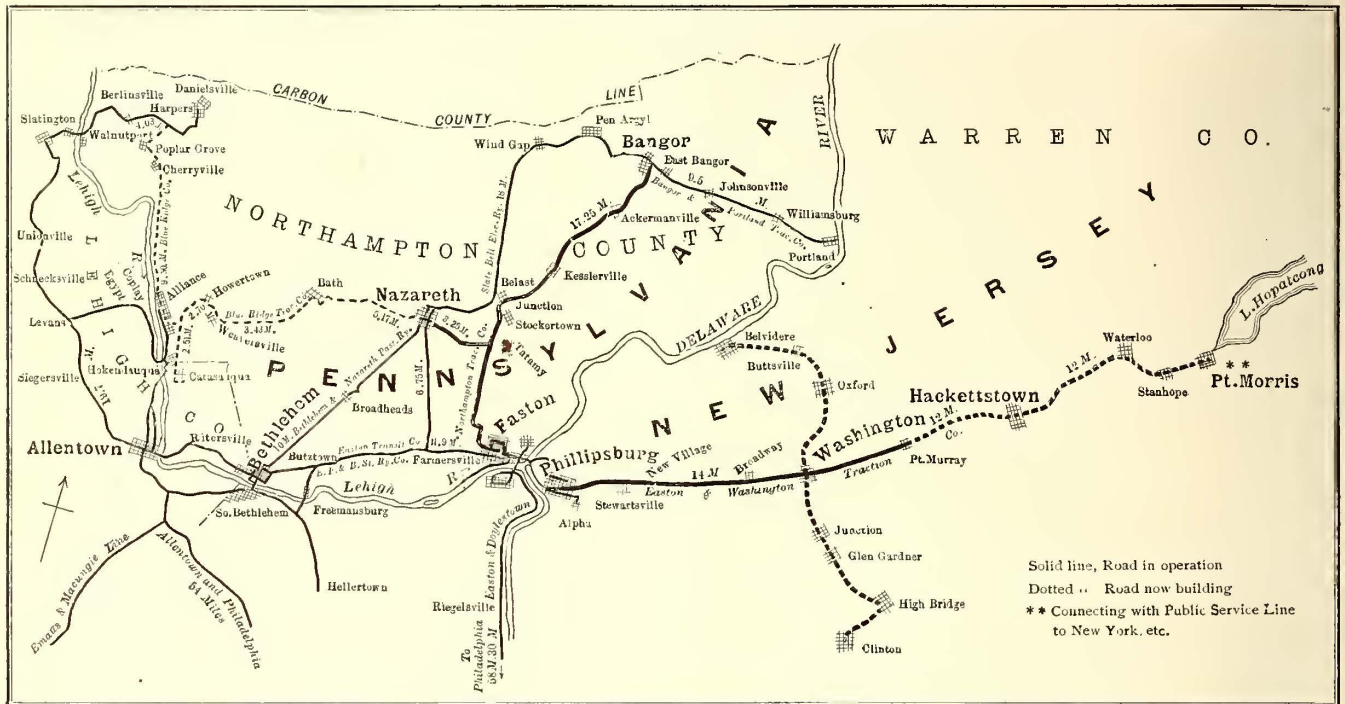
There has been considerable discussion regarding whether air blast transformers should be supplied with air from inside or outside the building. Where the building is not properly ventilated certainly the temperature should not be increased by keeping all the heat given off by the transformers in the building, and if there is no particular reason for doing otherwise the air should certainly be brought from outside the building. Where this is done warm air is, of course, pushed out.

In one city sub-station originally built without proper ventilation, the opening of two windows afterwards provided in the side wall, caused a drop in the temperature of the building of 10 degrees in as many minutes, and these new windows, together with provisions for drawing the air for the transformers from the outside of the building, resulted in a comfortable temperature where there had previously been one which was almost suffocating during warm days in summer.

THE EASTON & WASHINGTON TRACTION COMPANY

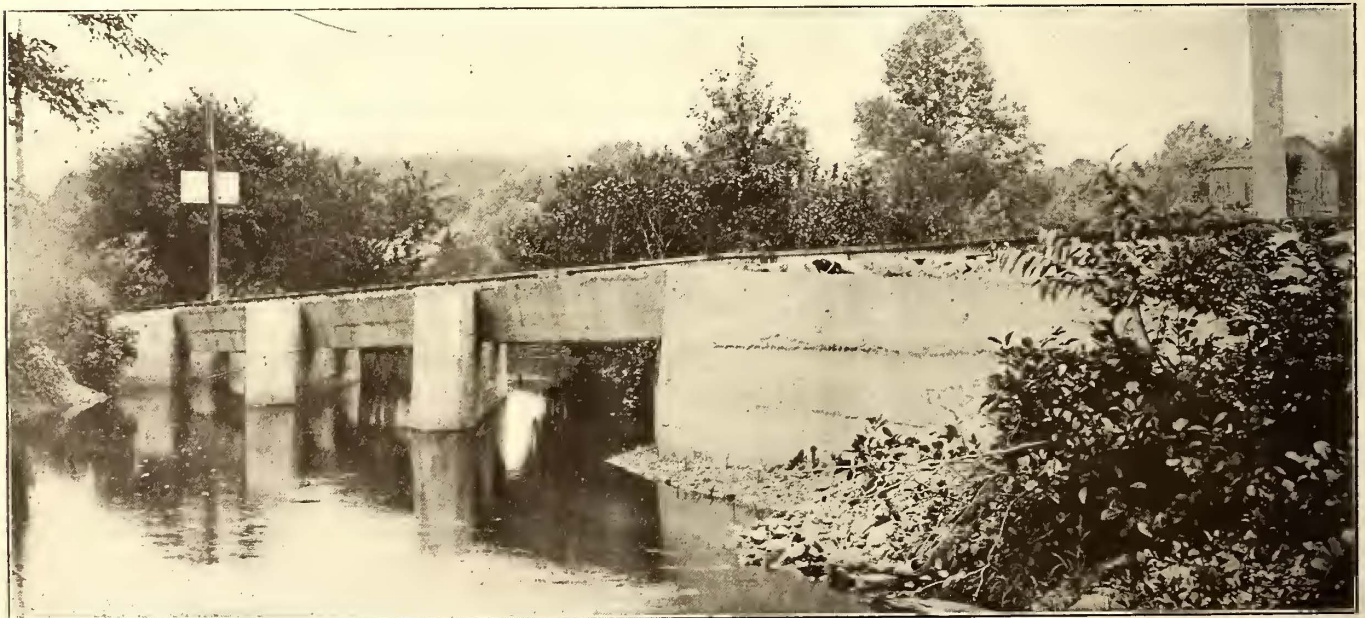
On account of its great mineral and agricultural wealth the portion of the valley of the Delaware River formed by eastern Pennsylvania and western New Jersey has long been thickly settled, and consequently has proved a fruitful field for both steam and electric railways. The electric railways already built or under construction in this terri-

a heavy through pleasure traffic to this celebrated resort in addition to the regular local patronage. At Lake Hopatcong connection will be made with the lines of the Morris County Traction Company, and as the latter in turn meet those of the Public Service Corporation at four points in Western New Jersey, several new trolley routes will be formed through the most attractive sections of New Jersey. Although called the Easton & Washington Traction



Street Railway Journal

MAP OF ELECTRIC RAILWAY LINES IN EASTERN PENNSYLVANIA AND WESTERN NEW JERSEY CENTERING AT EASTON, PA.



CONCRETE CROSSING OVER TAIL RACE FROM CANAL PLANE

tory are well shown in the accompanying map, from which it will be seen that while the section on the Pennsylvania side of the Delaware River, near Easton, is well supplied with electric railways, only one line runs due east from the city mentioned. This is the Easton & Washington Traction Company's railway now in operation from Phillipsburg, directly opposite Easton, to Port Murray. Eventually it will be extended to Lake Hopatcong and thus will secure

Company, the actual western terminus of the system is in Phillipsburg, N. J., which is separated from Easton by the Delaware River. The latter, at this place, is only a few hundred feet wide, and since it is spanned by several bridges, the two towns form practically a single community with a population of practically 100,000. Hitherto the only way to reach these cities from the east-lying towns nearby was by way of the Delaware, Lackawanna &

Western Railroad, but the latter, on account of its heavy freight business, could give the local passenger traffic little attention, and, in fact, encouraged the building of the electric railway. Between Washington and Phillipsburg there were only four trains a day, making the run in thirty-eight minutes, for which a charge of 60 cents per round trip was made; the same district now has an hourly electric service for 50 cents per round trip, and the running time, while four minutes more, actually works out less for most

employees of the local piano and organ factories and iron works, and prosperous enough to have their own dwellings. The district beyond this town is less thickly settled, but should be profitable on account of the Lake Hopatcong connection. Another source of traffic will be the ex-



RUNNING ON THE PUBLIC HIGHWAY ON BROADWAY, N. J.

PHILLIPSBURG, N. J., TERMINUS OF THE EASTON & WASHINGTON TRACTION COMPANY

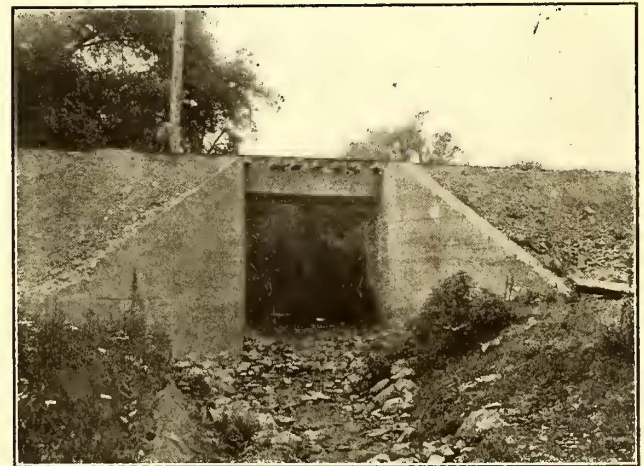
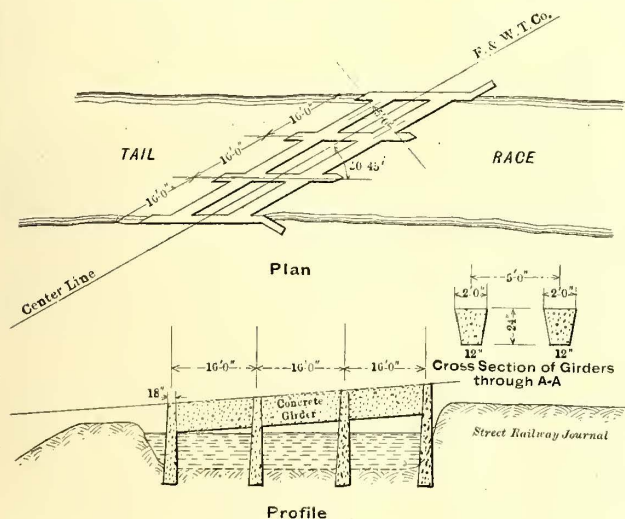
of the riders, as the car brings them nearer their homes. The hourly service was maintained during the first year of operation (October, 1906, to October, 1907) with only two cars, which earned over \$50,000; October, 1907, showed an increase of 20 per cent over the same month of 1906.

The greater part of the line is on right-of-way 40 ft. to 60 ft. wide, to permit a second track eventually. While

exploitation of a park near Washington, termed Silver Springs Forest.

ROADWAY AND TRACK

A very striking feature of the line is the extensive use of concrete for bridges, culverts, crossings, etc., so that the maintenance of roadway structures will be practically nil. The older part of the line has some steel work, but con-



CONCRETE CROSSING OVER TAIL RACE OF MORRIS CANAL

BRIDGE WITH CONCRETE ABUTMENTS OVER STREAM TAKING CARE OF OVERFLOW FROM COOLING POND AT PORT COLDEN

there are not more than three or four villages between Phillipsburg and Washington, their population has increased quickly since the opening of the electric railway. For instance, at Stewartville, which is only sixteen minutes from Easton, a large suburban population, has been built up along the electric railway at quite a distance from the old village, which is near the steam railroad station. Washington is a community of some 10,000 people in a radius of two to three miles, many of whom are skilled

crete is being used exclusively for all the later construction. The company is favorably situated in this respect, as it operates in the heart of a cement district and rock is also plentiful. Several specimens of concrete work are shown in accompanying illustrations, notably the crossing over the tail race from the Morris Canal plane, abutment work and a standard arch. From the drawing of the crossing over the tail race, it will be seen that the structure is 48 ft. long and consists of three 16-ft. spans. The track girders are of

rhomb section 2 ft. wide at the top, 2 ft. thick and 1 ft. wide at the bottom. The piers are 18 ins. wide at the top and 36 ins. at the bottom. The company also has built a concrete retaining wall at one place where it runs close to the bank of the Morris Canal. The cement for all of this concrete work, as well as for other portions of the line, was

ing. Weber joints and Roebling soldered bonds are used throughout.

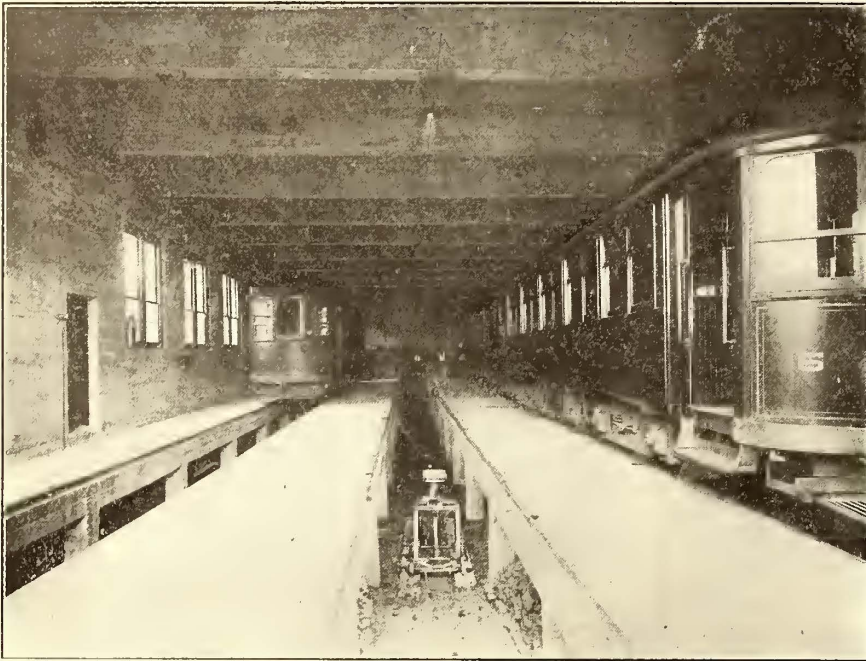
OVERHEAD CONSTRUCTION

Most of the overhead construction is of the bracket type, on poles spaced 120 ft. No. 00 is the standard size for the trolley wire. The two feeders are of 331,000 circ. mil aluminum;

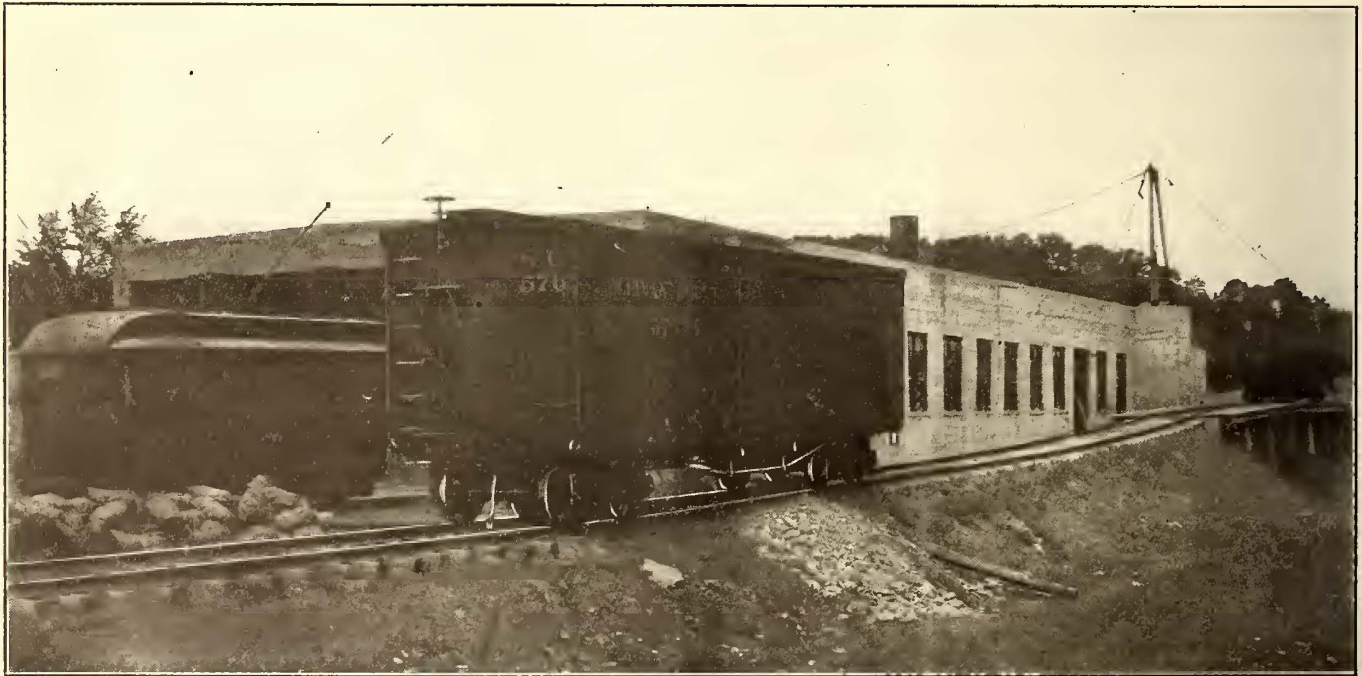
one of these is carried all the way between the power station at Port Colden and Phillipsburg, while the second is carried to within a mile of Phillipsburg. Woolley lightning arresters, placed four to the mile, protect the feeder circuits.

UTILITIES BUILDING AND POWER SUPPLY

At Port Colden, which is about a mile east of Washington, the company has erected a reinforced concrete fireproof structure which contains a power station, car storage, repair shop and offices. The general appearance of this building will be noted from the accompanying illustrations. Its total length is 193 ft. 10½ ins. The longest roof girders, which are reinforced with steel rods, have a clear span of 49 ft. 4 ins., and are spaced about 10 ft. centers. The roof of the car house section is solid, but a monitor is provided for the section containing the boiler plant.



CONCRETE CAR HOUSE INTERIOR, SHOWING GENERAL LAYOUT AND THE OPEN PITS BEFORE COMPLETION



VIEW OF THE CONCRETE UTILITIES BUILDING FROM THE FRONT WITH CONCRETE TRESTLE ON THE RIGHT

furnished by the Edison Portland Cement Company, of Easton, Pa., whose extensive plant, the third largest in the United States, is alongside the line of this company.

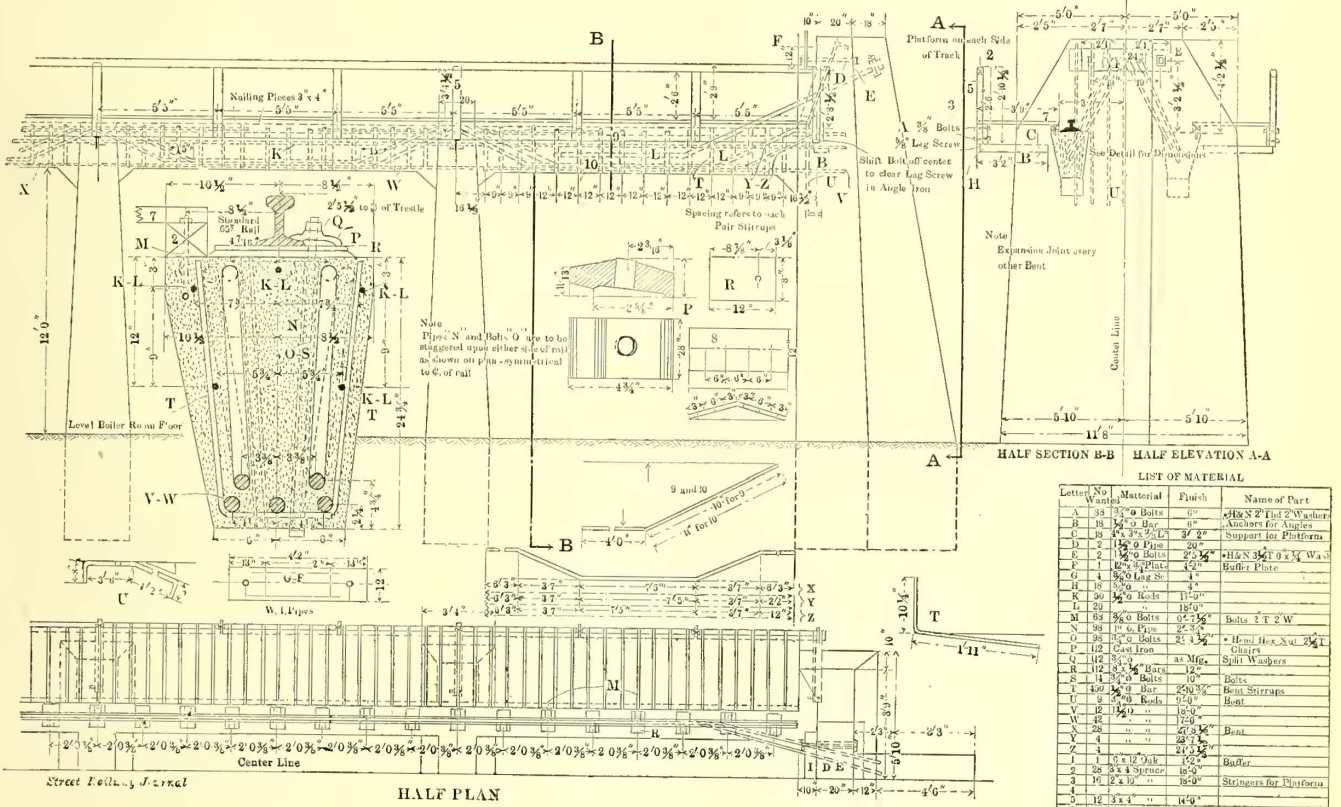
The track used throughout is a 74-lb. T, laid on 8 ft. x 6 in. x 6 in. ties, spaced 2 ft. centers. Both crushed native sandstone and cinders, laid 6 ins. under the ties, are used for ballast. The cinder ballast has been found quite satisfactory, as it gives springiness to the track and is self-tamp-

The boiler room, which is at the rear, is 41 ft. 3 ins. long, 51 ft. 10 ins. wide, and 7 ft. below the engine room. The latter measures 40 ft. x 47 ft. Separate entrances are provided for both boiler and engine rooms, and also to the extension, which serves as a pump and heater room.

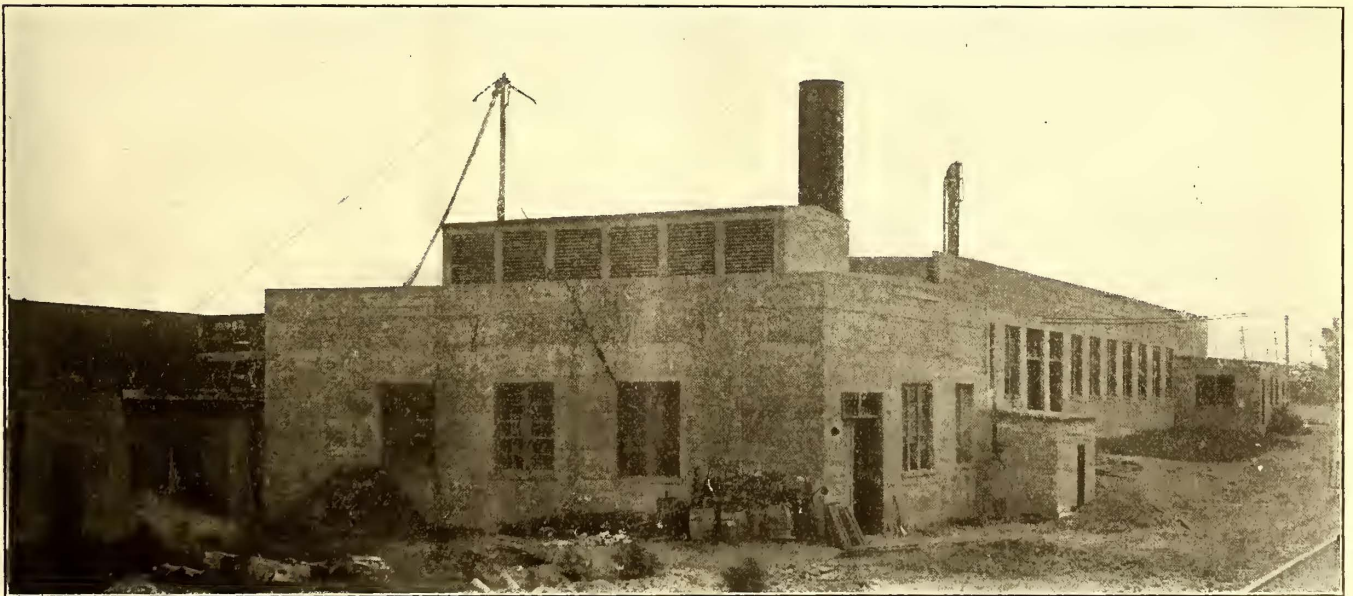
The boiler room contains two B. & W. boilers, totaling 533 horse-power, and two 200-hp boilers supplied by the Atlas Engine Works, of Indianapolis. The coal is a low-grade rice

burned with the aid of mechanical draft supplied by an American Blower Company outfit. Each set of boilers is connected to a separate stack; the later one (shown under construction) is carried in concrete to the roof level. The generating equipment consists of two McIntosh & Sey-

by damming a spring. The water flows through four sets of filters, the last one of which is placed in a concrete well outside the power house and is so arranged that the water from the pond must rise 3 ft. above the water level of the other compartment before it can reach the feed-water pip-



CONSTRUCTION DETAILS OF REINFORCED CONCRETE COAL TRESTLE



VIEW OF THE GENERAL UTILITIES BUILDING FROM THE REAR, SHOWING THE POWER HOUSE IN THE FOREGROUND AND END OF THE CONCRETE COAL TRESTLE

mour horizontal engines fitted with Richardson sight-feed oil pumps, and direct-connected to two G. E. 325-kw, 550-volt d. c. machines. Other features of the plant are the use of Bulkley injector condensers and Berriman closed feed-water heaters.

The water supply is secured from an adjacent pond made

ing. This arrangement greatly reduces the likelihood of heavy detritus being carried over after a freshet.

The water returned from the hot well is passed to an outside concrete tank fitted with staggered compartments. As the water passes through the hollowed terra-cotta bricks at the bottom the oil which rises is skimmed off. By the

time the last compartment is reached the water is clean enough to be returned to the pond if needed. The oil thus secured is used for track grease.

Reference to the views of the utilities building will reveal the unique reinforced concrete coal trestle built alongside the power plant. This trestle is strong enough to carry four loaded hopper-bottom coal cars of standard size at one time, and covers enough ground to permit the storage of a year's supply of coal. In view of the novel character of the trestle and the care given to its design, the working drawing and list of material are reproduced in full. The

the soil in this territory is full of springs. Hence, in addition to the ordinary drains, the bottom of each pit is laid with terra-cotta drain tile under the concrete, so that water will not well through.

ROLLING STOCK AND SCHEDULE

The total rolling stock comprises five 18-ton double-truck closed cars, 42 ft. over all, of the type shown in an accompanying illustration; one single-truck car and one plow. All of these were furnished by the Wason Manufacturing Company, of Springfield, Mass. The double-truck cars are equipped with G. E. 80 motors, K 28 B controllers, National air brakes, Wilson trolley catchers and G. E. lightning arresters, Imperial headlights and Wheeler rattan seats. The single-truck car and plow are operated with two G. E. 57 motors each.

At present, only two of the double-truck cars are required to maintain the hourly schedule over the 18 miles operated in fifty-five minutes. There are four turn-outs between Phillipsburg and Port Murray, which make it possible to give a half-hour service with four cars. The carrying capacity can be further increased by running two-car trains or adopting the "following car" system when business is exceptionally heavy. The latter method would be quite practicable on this system, as there is little woodland along the line to conceal the car ahead, and but few grades or curves.

The company is to install a telephone despatching system and probably will use one of the methods permitting telephoning from the car.

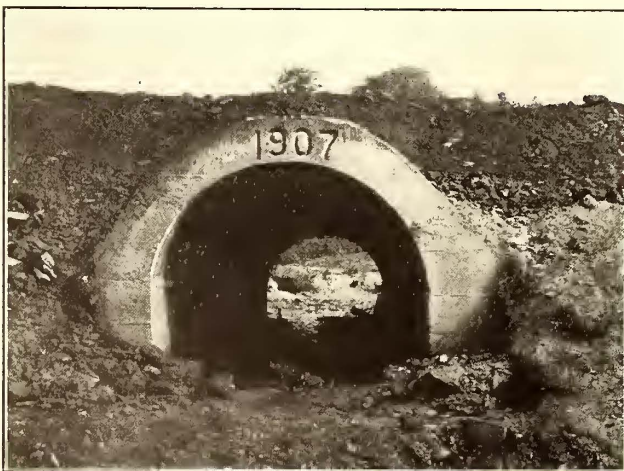


STANDARD CLOSED CAR OF THE EASTON & WASHINGTON TRACTION COMPANY

trestle was designed by Beadle & Maxwell, engineers, of Easton and New York.

CAR STORAGE

The front section of the utilities building, occupying a space of 49 ft. 4 ins. wide and a length of 110 ft., is taken



CONCRETE ARCH UNDER PARTIALLY COMPLETED ROADBED

up by four tracks, each furnished with an open-type pit for its entire length. The walks, which are of concrete reinforced with old rails, are 6 ft. 6 ins. wide and are carried on concrete piers. In the rear of the pits a space of 9 ft. 6 ins. is reserved for repair work.

The pits are heated by steam pipes carried under the walks. The pit drainage required particular attention as

CAR ADVERTISING

Instead of looking for the patronage of the great national

EASTON, PA. _____ 190__

Easton and Washington Traction Co.:

We hereby authorize you to insert our advertising card, size 11x21 inches, in each of the cars of the EASTON AND WASHINGTON TRACTION CO. for the term of twelve months, commencing _____ Cards to be furnished by _____

In consideration of the above service, we agree to pay you the sum of _____ Dollars, (\$ _____) per month payable at the end of each month during said term.

If any cash installment provided for herein, is due and unpaid for in ten days, this contract may be terminated at your option.

REMARKS: _____

Name _____
Accepted _____ Address _____

CAR ADVERTISING CONTRACT FORM, 8½ INS. X 6½ INS.

advertisers, the Easton & Washington Traction Company has made it a point to secure its car advertising at home, especially in Easton, which is the shopping center of this district. Owing to personal familiarity with the local trade, the management was able to prepare a list of the best merchants in the town, who were then successfully solicited. The charge for the insertion of a card 11 ins. x 21 ins. is

\$3 per month for five cars, covering two cars in winter and four or five cars in summer. The cards are furnished by the company and are changed four times a year without charge. Accounts are payable monthly. The gross earnings from this source for the first year were \$1,200, of which \$1,100 was net profit. The cost of getting the business was practically nothing.

GENERAL

In addition to the extension to Lake Hopatcong, the company is also planning to build a line from Belvidere to Clinton, as indicated on the map. The operation of the Easton & Washington Traction Company is managed by W. O. Hay, with headquarters at Easton, who is also secretary of the company. The other officers are: President, R. M. Petty, Washington, N. J.; treasurer, R. M. Eilenberger, Washington, N. J.; chief engineer, Chas. M. Brady. The entire building of track, roadway, concrete and steel structures was done by M. P. McGrath, of Worcester, Mass., and Easton, Pa., the well-known contractor, who gave it his personal attention very closely for more than a year.

PRACTICAL ASPECTS OF STEAM RAILROAD ELECTRIFICATION

As noted in the last issue of the STREET RAILWAY JOURNAL, W. N. Smith presented on Dec. 6 a paper on "Practical Aspects of Steam Railroad Electrification" before the Cornell University branch of the American Institute of Electrical Engineers. The following is a summary of the important points brought out by Mr. Smith:

The many novel problems arising in steam railroad electrification call for the services of a consulting engineer to act as interpreter between the railroad and the manufacturer. Not only must he specify what apparatus appears best adapted for the particular operating conditions, but also secure the proper co-operation of the different departments of a transportation system to make certain that the new equipment will be properly used.

One important aspect brought out was the question of standardization. The speaker referred to the manufacture of many parts by the electric railway companies themselves, following the example of steam railroads. He said that the standardization committee of the American Street & Interurban Railway Association had made an excellent beginning in pursuing the standardization question along the same general lines as the steam railroad associations. The time would undoubtedly come when standards would be fixed more commonly by the engineers of the companies rather than by the manufacturers. With regard to the changes that electrical equipment would bring about by the addition of a considerable quantity of extra parts, he did not believe it would be desirable to change steam railroad standards unless absolutely necessary. Occasionally, however, there are fundamental reasons for changing existing steam standards to accommodate certain electrical features. An instance of this was the adoption of a new shape of splice bar to accommodate a heavy rail bond underneath it upon a section where some new track was to be laid.

As to clearances, the stationary features pertaining to the right of way and the dimensions of moving equipment must not be allowed to interfere with each other. The third-rail sometimes conflicts with bridge gussets on the one hand and hopper bottom coal cars on the other, besides increasing the necessity for the elimination of highway crossings. On the other hand low overhead bridges con-

flict seriously with trolley construction, particularly when high voltage is desired. The speaker then mentioned the different types of electric locomotives that have been developed to date and particularly the point brought out by steam railroad engineers that the electric locomotive should have its weight distribution approximate more nearly that of the steam locomotive.

In discussing the increased capacity made possible by electrification, the speaker said that there were many lines where the installation of a block signal system would accomplish the same object. The total mileage of single track lines in the United States is about 200,000, and yet only 17½ per cent of the total is controlled by block signals. It would seem, therefore, that increasing the capacity of such unprotected lines by the installation of electric power need not be considered. It must also be borne in mind that there is a considerable difference in the dispatching systems of steam railroads and interurban electric railways. The former dispatch by telegraph mostly, while the latter prefer the telephone. In the case of the steam railroads, however, there are usually several classes of passenger and freight trains, while on the interurban electric railway complications of this character are not so great, or in many cases do not exist at all. On a steam railroad the necessity for giving the right of way to some fast train may hold up inferior trains for many hours, and this condition, of course, would apply just as well if the railroad were operated electrically.

The fact that it is impossible to generalize upon the capacity of single-track roads for train movement renders it equally impossible to generalize upon the applicability of electric motive power thereto in comparison with steam.

On the whole, the question of electrification can be discussed practically only with reference to a concrete case.

THE THREE-PHASE LOCOMOTIVES FOR THE GREAT NORTHERN RAILWAY

An announcement was made several months ago of the contract closed by the Great Northern Railway Company with the General Electric Company for several three-phase locomotives, to take care of all passenger and freight trains on the Great Northern Railway traversing the Cascade tunnel. This tunnel is approximately 2¾ miles in length, with no ventilating shaft, and a uniform grade east of 1.6 per cent in the tunnel section, making the difficulties of ventilation with steam locomotive operation a very serious factor both from the standpoint of safety and operating efficiency. Aside from danger of poisonous gases of combustion, the interior of the tunnel has become so fouled with soot as to reduce the tractive effort of the steam locomotives now used, by reason of the slippery condition of the rails. The introduction of electric locomotives will do away with many of the evils now encountered in steam operation.

Further particulars of the electric locomotives are now available. They will weigh 100 tons each, all weight being on the drivers. Each locomotive will be equipped with four three-phase induction motors of 325 hp capacity, mounted on two articulated bogie trucks and each machine will have a capacity of hauling a 500-ton train load up a 2 per cent grade at 15 miles per hour, and, as the motors are reversible, the speed of the train can be controlled down grade by regeneration. It is hoped by this means to introduce an additional feature of safety and eliminate the possibility of breakdown due to overheated wheel tires and brake shoes.

The locomotives will receive their supply from two 6600-volt conductors fed from a step-down transformer station located at the entrance of the tunnel. The generating station will be located on the Wenatchee River, 30 miles from the tunnel, and power will be transmitted over duplicate transmission lines at thirty-three thousand volts. The generating station will contain two 2000-kw three-phase water-wheel-driven generators operating at 25 cycles, and arrangements are being made to take care of excess power of regeneration due to an unbalanced load up and down grade. The entire installation is under the supervision of Dr. Cary T. Hutchinson, who acts as consulting engineer to the Great Northern Railway, and the entire apparatus is being supplied by the General Electric Company. It is expected to have the road in operation in about one year, and work is already well under way on the water-power development, as well as the electrical apparatus.

C. W. Cross and W. B. Russell, respectively superintendent and assistant superintendent of apprentices.

The lecturer did not attempt to go into the subject of electricity in a detailed way, but gave his audience an idea of the present electric locomotive and car equipment of the New York Central and how they are used. The definitions of electrical terms were given verbally and also presented on lantern slides. Following this, the speaker compared the functions of the different parts of steam and electric locomotives. One of the features was the accompanying simplified wiring diagram of a four-motor locomotive, which the lecturer explained for both third-rail and overhead contact. The lecture was concluded with numerous slides of locomotive, motor cars, trailers and the principal parts of their equipment.

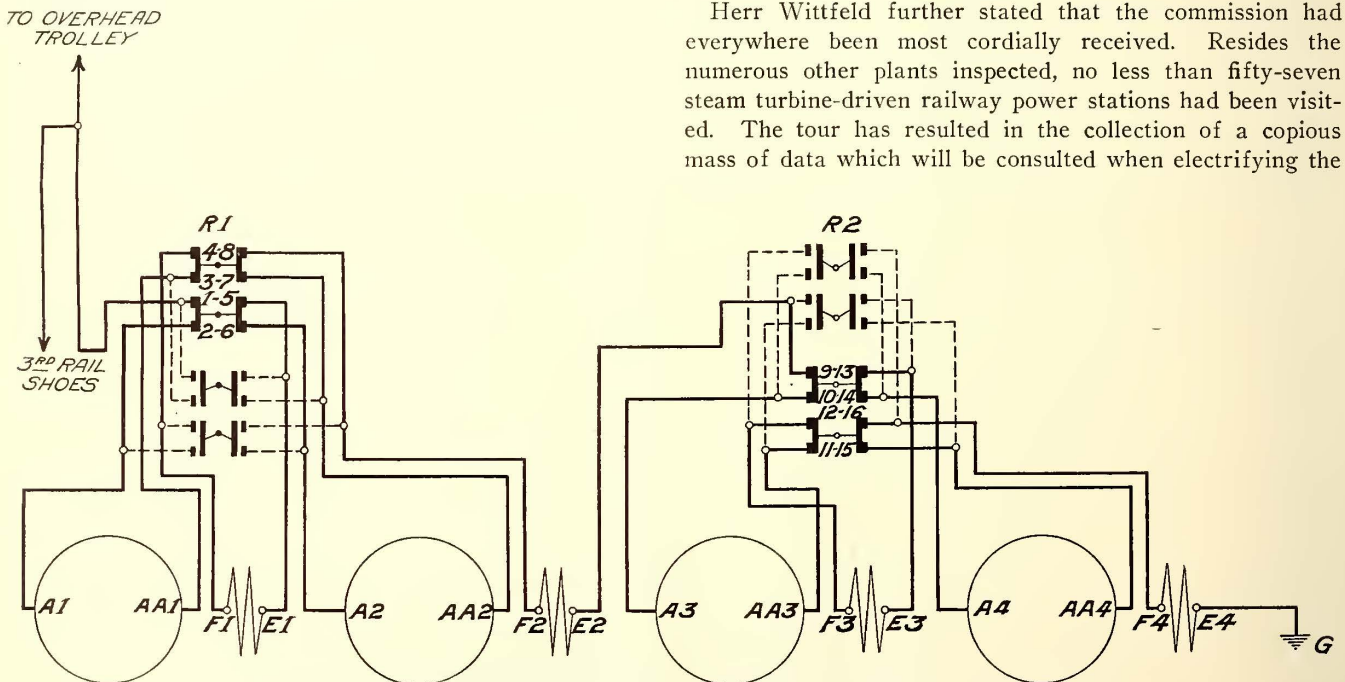
FIRST ELECTRIC TALK TO NEW YORK CENTRAL SHOP APPRENTICES

For some time the New York Central & Hudson River Railroad Company has been conducting schools for its shop apprentices at several of the important construction and maintenance places of the system. The instruction is along simple lines, consisting mainly in drawing and estimating material required for different parts, as the leading idea is to improve the efficiency of the men as mechanics rather than to make them members of the transportation or engineering departments. At the same time, the system does

GERMAN OPINION OF AMERICAN ELECTRIC RAILWAY ENGINEERING

The London "Engineer" contains an interview with the members of the delegation of German engineers who were recently in this country to investigate American electric traction developments. The party consisted of Messrs. Wittfeld, Frischmuth, Pforr, Jordon and Reichel. Mr. Wittfeld stated that since he had last studied the question in America the progress there in developing high-speed electric railways had been astonishing. The high standard of the work being done merited warm admiration, and it was surprising to see how, even with scanty means, excellent results were accomplished.

Herr Wittfeld further stated that the commission had everywhere been most cordially received. Besides the numerous other plants inspected, no less than fifty-seven steam turbine-driven railway power stations had been visited. The tour has resulted in the collection of a copious mass of data which will be consulted when electrifying the



SIMPLIFIED WIRING DIAGRAM OF NEW YORK CENTRAL ELECTRIC LOCOMOTIVE

bring forth some of exceptional ability who are encouraged to study further.

Hitherto nothing has been done to give definite instruction to these apprentices about electric railway equipment, but, realizing the important part electricity is playing and will play in the development of the New York Central, steps are being taken to spread information about the latter motive power. The first work along these lines was a lecture given Dec. 10 at the West Albany shops by J. G. Baukat, assistant superintendent of electrical equipment in the New York Electric Zone. Mr. Baukat spoke at the invitation of

Prussian railways. The American experience which has been placed at the disposal of the commission will make it possible to adopt from the beginning the most suitable engines and plant. Privy Councillor Wittfeld will prepare an official report on the labors of the commission, embodying the information obtained in America, which will be laid before the Minister of Railways, and he will subsequently elaborate a memorial on the electrification of the Berlin city and suburban lines for the Ministry of Finance. An engineering department is now being organized, by which the final plans for the latter lines are to be fixed.

REPORT OF TESTS ON CONCRETE FOR HEAT RESISTANCE

Some tests made in the power house of the West Penn Railways at Connersville to determine the adaptability of concrete for use in the construction of smoke flues, may be of general interest. The tests were conducted by F. W. Scheidenhelm, construction engineer for the company, and the following report was submitted by him to the company officials. A flue constructed of the materials which the tests indicated best adapted to the purpose has since been submitted to the regular working temperature and has stood the service even better than was anticipated.

I.—REPORT OF TEST ON CONCRETE FOR HEAT RESISTANCE.

On September 25, 1907, five specimens were made, each 6 in. x 6 in. x 3 in. with a 6 in. x 6 in. piece of 3-in. mesh, No. 10 gage expanded metal placed ¼ in. from the bottom. The composition of the specimens is given in the table below. On Oct. 10 the specimens were put in the back of boiler No. 12 at the main power house, directly above the flue, where they received the heat from the flue gases just before the gases pass into the smoke-flue. They were exposed to heat for approximately 84 hours. The temperature was above 800 deg. F. for the thermometer, which reads only to 800 deg., went to its upper limit, and indications were that it would have gone still higher had its range been sufficient. The following table shows the composition of specimens and the effect of heat on them:

Specimen No.	Proportions		Notes
	Sand	Cement Lime	
1	3	1	Small crack apparently little affected as regards hardness
2	3	7/8	Distinct crack. Softened
3	3	3/4	Not cracked. Softened appreciably
4	3	1/2	Not cracked. Softened
5	3	1/4	Not cracked. Absolutely worthless

It will be noted that all the specimens containing lime were appreciably softened, so much so that the concrete blocks could be spalled and broken off by sharp blows with a stick of wood. The specimen containing only cement and sand was apparently little effected and still caused a hammer to ring when striking the block.

It will also be noted that all the specimens containing lime, except one, remained uncracked, whereas the specimens containing cement only had a small crack, which extended about half-way across one side of it, which might indicate either that the lime-concrete formed a better heat protection for the metal reinforcement or that the concrete containing lime lost its cohesive strength to such a degree that the expansion and contraction found no resistance at any point in the block. I am inclined toward the latter view, especially since the lime blocks were softened to so great an extent. The cement block acted more like a concrete wall, in which contraction or expansion has singled out the weakest point and there caused a crack.

II.—REPORT OF TEST ON CINDER CONCRETE BLOCKS FOR HEAT RESISTANCE.

Two specimens made on Sept. 26, were exposed to heat under same conditions as the specimens described in the previous report, that is to 800 deg. F. or more for approximately 84 hours. The specimens were 12 in. x 12 in. x 3 in. with a similar piece of expanded metal placed about three-quarter inch from the bottom. No. 1 block contained sand, cement and cinders in the proportion of 1, 2, 4; No. 2 block contained same proportion of sand and cinders, but one-quarter of the cement was replaced by lime, so that the proportion of lime, sand, cement and cinders were 1/4, 3/4, 2, 4.

The cinders were as clean as could be obtained from the river-washed ashes at the power house, and ranged in

size from ¼ in. to ¾ in. Under the flue temperature some of the cinders, which still contained carbon, showed signs of having burned, but the burning did not seem to have effected the block, as a whole, to any appreciable extent, because, in breaking, the fractures did not extend across the burned portions.

EFFECT OF HEAT

Block No. 1 was slightly cracked; otherwise it was sound and hard. The cracks seemed to extend nearly through the whole block. Block No. 2 had surface cracks only, but was very much softened, as was discovered by tapping with a sledge.

These results are in accord with those given in report No. 1; that is, the specimens containing lime always show appreciable softening under heat, while specimens containing cement only show slight expansion and contraction cracks, but their hardness seems to be little impaired. It must, in this connection, be noted that, on cooling, all cracks in all specimens grow more prominent and perhaps slightly deeper.

III.—CONCRETE USED IN SMOKE-FLUE

The tendency of the cinders to burn, even though no direct proof could be obtained from this test indicating that this burning weakened the blocks, seemed to me sufficient to condemn the use of cinder concrete for our smoke-flue, for it was practically impossible to obtain more than a handful at a time of clean, entirely burned cinders. Accordingly, most of the concrete in the smoke-flue was put in in the proportion of 1, 2, 3, using Allegheny River sand, Vulcanite Portland cement and 1 in. crushed bluestone. In some portions of the floor and roof, however, a grout, in the proportion of 1 2, was spread in a ½-in. layer over forms to insure a good and even surface under the expanded metal.

TOOL ADJUSTMENTS BY COMPRESSED AIR

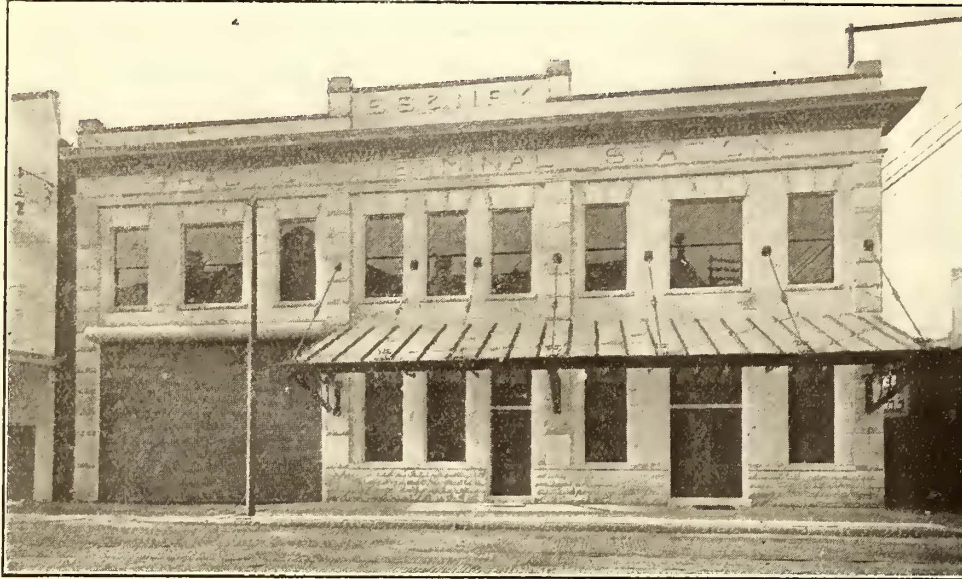
It is coming to be more and more recognized among up-to-date shop superintendents that when a man is working on a high-priced machine, the time lost in adjusting tool holders and other parts by hand should be minimized by using some mechanical method. This principle is recognized in the Harmon shops of the New York Central Railroad, where it has been found that the efficiency of a wheel lathe is increased 15 to 20 per cent by using compressed air to adjust tools on the lathe instead of doing the work by hand.

ONE WAY OF PREVENTING HOT BOXES

The Harmon shops, which were built to take care of the heavy repair work in the New York Central electric zone, are now in service. One of the interesting kinks which has been adopted there is the method of preventing hot boxes, or, what amounts to the same thing, avoiding rough journals. Before a wheel set is placed in service it is placed on a stand so as to be easily run by belting from a convenient motor or engine, while the journals are placed to revolve in leather bearings. A boy lubricates the journals from time to time, pressing down on them a piece of emery cloth until the combined action of the oil and emery has given the journals a high, smooth polish. This process usually requires one to one and a half hours. It has been found that the reduction in journal friction thus attained has practically eliminated hot boxes.

NEW TERMINAL STATION AT EVANSVILLE, IND.

The new terminal station of the Evansville, Suburban & Newburg Railroad at Evansville is noteworthy because of the unusual amount of attention given to, and expense incurred in, producing pleasing and harmonious effects in the waiting rooms. Other portions of the building have not been neglected, however, as is evidenced by the accompanying reproduction of the façade.



EXTERIOR OF EVANSVILLE TERMINAL

The station is located on Fifth Street, near Main, in the heart of the business district of the city and on the site of the former depot, and serves as a terminal for the Boonville and Newburg branches of the Evansville, Suburban & Newburg Railroad, the Evansville & Eastern Company and the Evansville and Mt. Vernon Traction Company. It has a front of 69 ft. on Fifth Street, while the passenger station

offices and the office of the general manager and by freight tracks and a loading platform. The floors of all the rooms are of marble mosaic and the ceilings are of steel. The interior wood finish is oak. Above the marble baseboard and oak wainscoting the walls are plastered and painted. Both waiting rooms are amply provided with oak seats. For convenience of occupants of the ladies' waiting room, the one column in this room is surrounded by mirrors. The general effect of all the waiting rooms and offices is height-

ened considerably by the ornamental electric light fixtures on the columns and walls. These fixtures also provide for the use of gas in emergencies. Additional lighting is afforded by lamps located at intervals of about 2 ft. around the walls of the waiting rooms near the ceiling.

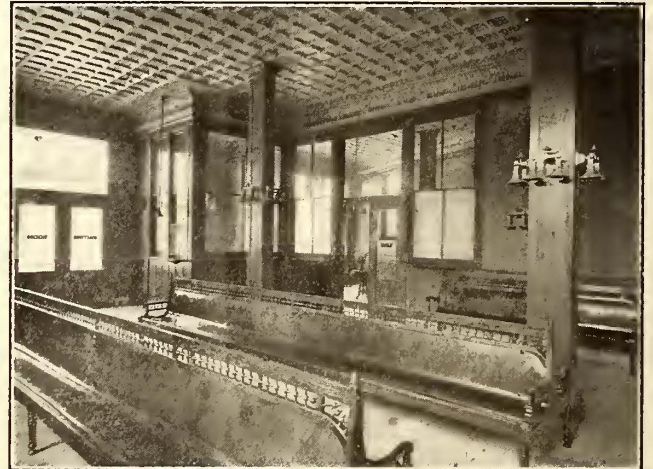
The arrangement of the rooms is such as to facilitate considerably the transaction of business. The ticket office is at the front of the building, where the agent may observe the loading and unloading of cars in the street. Ticket windows open into each waiting room. The general manager's office has a doorway leading into the

freight office, and the latter office has doorway and window connections with the freight room.

The upper floor contains seven offices used by the operating department. Entrance to it is gained either by a stairway at the front of the building in the general waiting room, or by one at the rear from the freight room. A vault measuring 8 ft. 6 ins. x 11 ft., which is carried up



GENERAL WAITING ROOM WITH MANAGER'S OFFICE IN THE REAR



GENERAL WAITING ROOM, SHOWING TICKET OFFICE AND LADIES' WAITING ROOM IN REAR

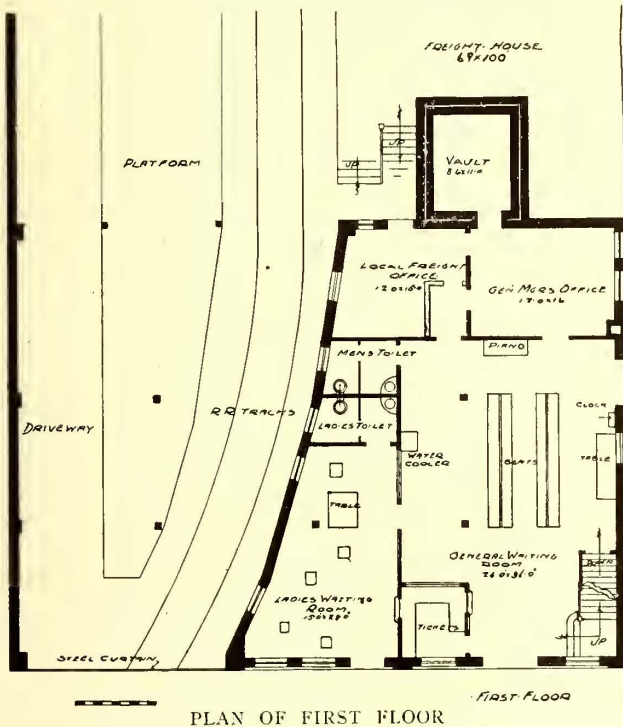
proper has a depth of 50 ft. Behind the passenger station will be erected a freight station 69 x 100 ft.

The front of the passenger station is of Bedford limestone, and its appearance is enhanced considerably by an ornamental steel and glass awning. The track opening for the freight room is closed by a rolling steel door. The lower floor is taken up by waiting rooms, ticket and local freight

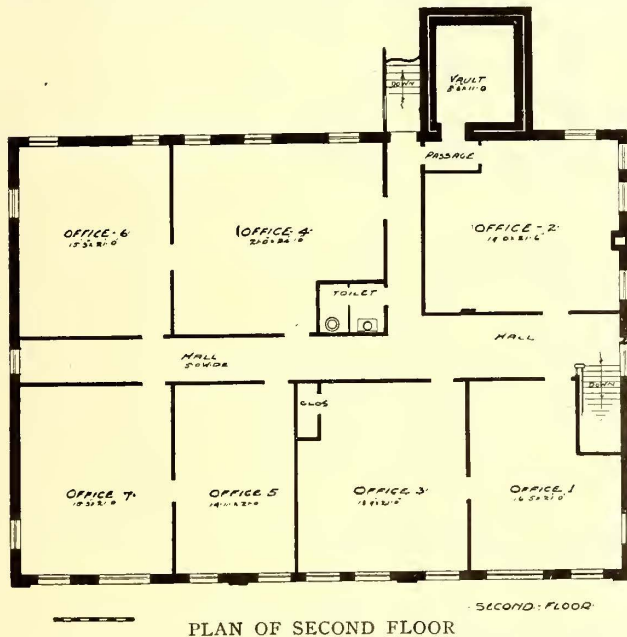
both floors, opens into the general manager's office on the main floor and into the auditor's office on the second floor. Speaking-tubes are provided for communication between offices. The building is heated by steam from a heater in the basement.

The walls and roof structure have been built to permit the addition of a third story whenever expansion of busi-

ness necessitates. This third floor, moreover, may be built on without exposing the second floor to the weather. With a view to increasing the size of the waiting room at some future time, the wall adjacent to the freight room is built in a steel frame which supports the building in such a man-



ner that the wall may be removed and the waiting rooms extended over the present track space. Credit for the completeness of the plans of the station and the manner in which all details were carried out is due in a great measure

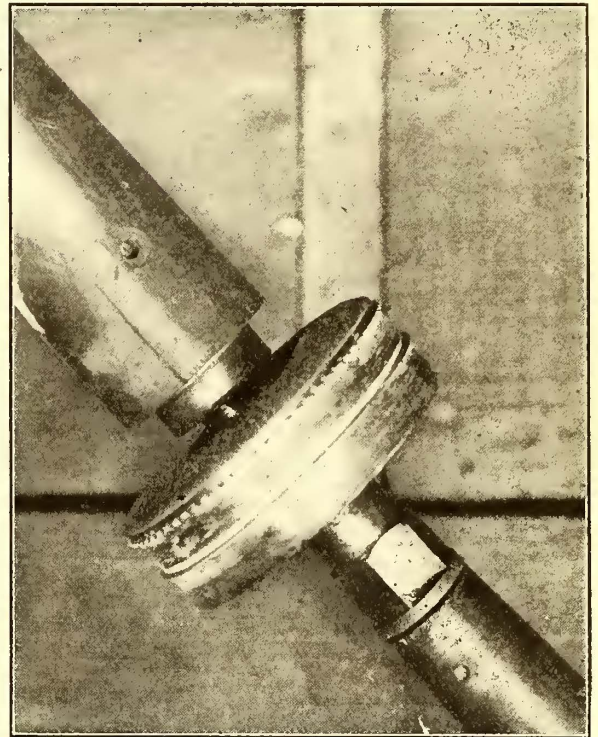


to Gus Muhlhausen, manager of the operating company, who took a personal interest in the design and erection of the building.

The Lake Shore Electric Railway Company is testing a trolley finder, which consists of a small trolley wheel placed on the pole midway between the car and the trolley wire. When the trolley wheel slips off the wire, it is intended that this small wheel shall strike the wire and furnish current until the trolley pole can be replaced.

GROOVING COMMUTATORS IN THE SHOPS OF THE INDIANAPOLIS & NORTHWESTERN TRACTION COMPANY

Practice in the shops of the Indianapolis & Northwestern Traction Company has demonstrated the fact that the G. E. No. 73 motors in use by the company operate better when the mica between the segments of the commutator is grooved out. Grooving the commutators by hand or in the lathe proved to be such a difficult task that Leverett M. Clark, former master mechanic of the system, now master mechanic of the Indianapolis Traction & Terminal Company, and L. W. Hayes, the present master mechanic, devised a special apparatus to expedite the work. A small wheel carrying a circular metal saw is operated at a high



SAW FOR GROOVING COMMUTATORS IN THE INDIANAPOLIS & NORTHWESTERN TRACTION COMPANY'S SHOPS

speed through a flexible shaft from an emery wheel shaft or other convenient machine. Suitable handles are placed on both sides of the wheel so that it can be held firmly by the operator. A metal disc at a distance from the saw equal to the width of a commutator segment, and which fits into one of the grooves between the segments, serves as a guide for the saw.

With this device about one and one-half hours are required for one man to groove a commutator containing 117 segments and remove the burrs from the edges of the segments. The slots are grooved slightly deeper than it is intended that the commutator shall wear in order that the portion remaining may serve as a guide when the commutator is grooved again. It has been found that comparatively dry brushes work best on the grooved commutators. When the brushes contain too much oil and grease there is a tendency for the resulting mixture of carbon, dust and oil to fill up the grooves and cause short circuits.

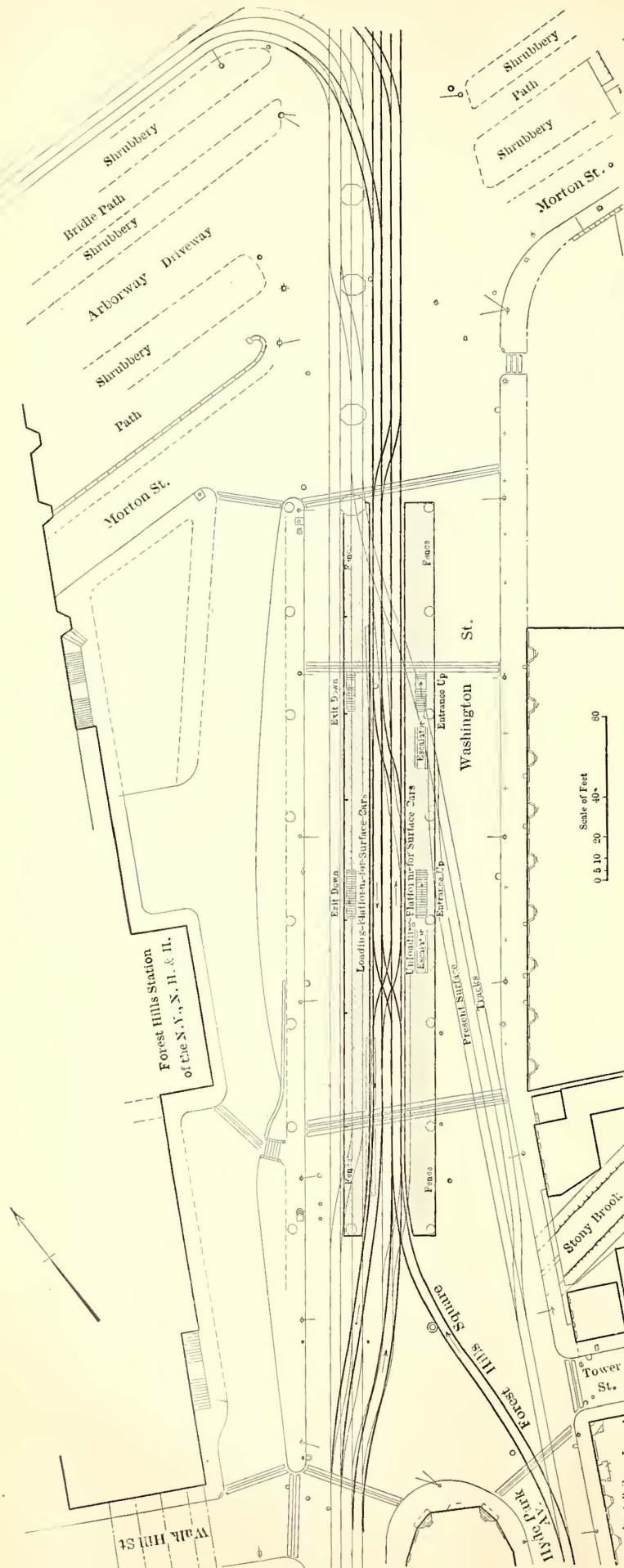
The Sao Paulo Tramway, Light, Heat & Power Company will ask shareholders for permission to increase the capital from \$8,500,000 to \$10,000,000. It is intended to issue only \$500,000 at the present time.

BOSTON ELEVATED TEMPORARY TERMINAL AT FOREST HILLS

In connection with the extension of the Boston Elevated's overhead structure to Forest Hills, approval of the company's plans for a temporary terminal at the latter point has been granted by the Railroad Commission. The accompanying drawings illustrate the terminal at the elevated and surface levels, and also show the general design of the single column, concrete, arched structure to be erected on Washington Street at the crossing of the Arborway, which is a part of the park system of Boston.

The temporary terminal is to be located at the edge of Forest Hills Square, directly opposite the Forest Hills station of the New York, New Haven & Hartford Railroad. Southbound elevated trains arriving from in-town stations will stop at an unloading platform, 357 ft. long by 20 ft. wide, located on the west side of the station, the tracks being between the inbound and outbound platforms and 12 ft. apart on centers. These platforms, the inbound being on the east side of the station, will accommodate 8-car trains with ease. A double cross-over, to be installed south of the station, will provide for the reversal of trains for the return trip. The loading platform is to be of the same length as the unloading platform, but it will be 30 ft. wide in order to accommodate the waiting traffic. On the unloading platform there will be no occasion for passengers to wait, and for this reason the area allowed is smaller. South of the double cross-over the tracks will extend far enough beyond Walk Hill Street to accommodate an 8-car train on each side, with a little extra space at the ends. Four exit stairways will be provided from the unloading platform. These will lead to a lateral mezzanine passage-way, about 60 ft. long and 8½ ft. wide, connecting the north and southbound platforms. Exit stairways will be provided between the passage-way and the street. Two entrance stairways will be built between the street level and the mezzanine passage, and the latter will be connected by two flights with the loading platform for elevated trains. Two escalators will be provided between the street level and the train platform, inbound side.

At the street level two surface car platforms 360 ft. long will be provided, and between them will be located the surface tracks, at present shown in light lines in the engraving on this page. Crossovers will be provided to enable the surface cars to deliver passengers to the connections with the loading platform of the elevated trains and to receive passengers coming down from the elevated delivery platform. The loading platform for surface cars will be about 13 ft. wide and the unloading platform about 15 ft.

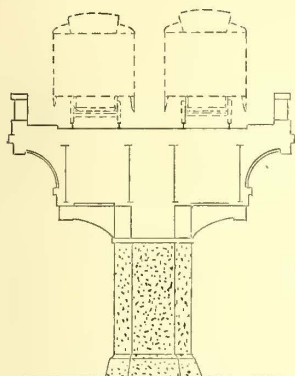


CONSTRUCTION AT SURFACE LEVEL FOR THE FOREST HILLS EXTENSION OF THE BOSTON ELEVATED RAILWAY COMPANY

in width. Fences on the outside of each platform will probably be installed to prevent the entrance of passengers to the system without the payment of fare.

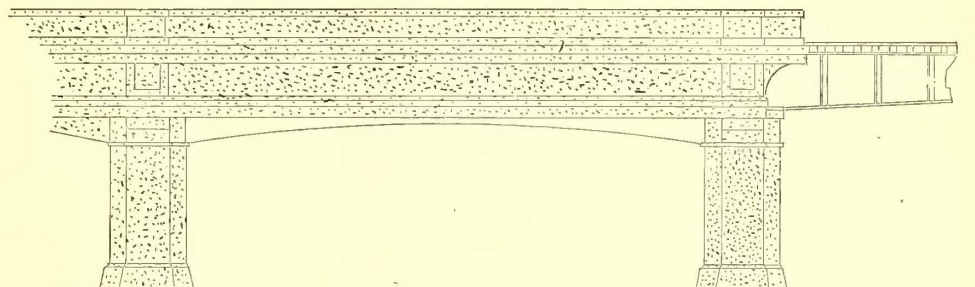
The detail design of the single column structure opposite the Arborway have not yet been completed, but the posts and arches will probably be of reinforced concrete. The

type and have an aggregate carrying capacity equal to 600 of the old cars used before the disaster. More cars will be put into service later. Although conditions have improved materially within the last two months, there is no reason to believe that the United Railroads of San Francisco will be in a position to resume dividends on the stock, most of



NORTH ELEVATION

Street Railway Journal



PART OF EAST ELEVATION

ELEVATIONS OF SPECIAL ELEVATED CONSTRUCTION AT FOREST HILLS ARBORWAY

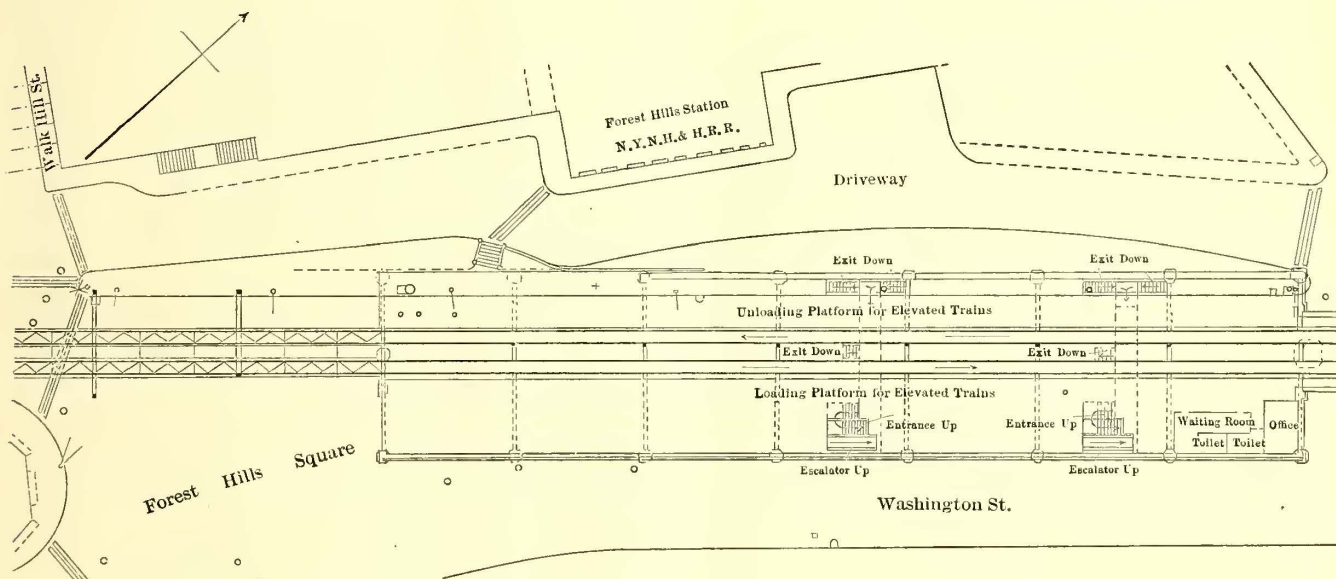
parapets, copings and body of the structures will also employ concrete to a large extent. The terminal approaches were designed under the direction of Mr. George A. Kimball, chief engineer of elevated and subway construction.

FURTHER PROGRESS BY THE UNITED RAILROADS OF SAN FRANCISCO IN THEIR RECONSTRUCTION WORK

There is noticeable a steady improvement in conditions in San Francisco so far as the United Railroads are concerned. The strike on the company's lines, which had been

which is owned by the United Railways Investment Company, for some time.

With the movement of a large frequency changer from the Martin to the North Beach power station the United Railroads will have reached a solution to the power question, which will enable them to increase the number of cars in service to 560, more by a hundred than have been running at any time since the fire. With the coming increase in the number of cars, and to decrease the liability of accidents, the company has adopted a new set of rules regulating the movement and spacing of cars and right of way



Street Railway Journal

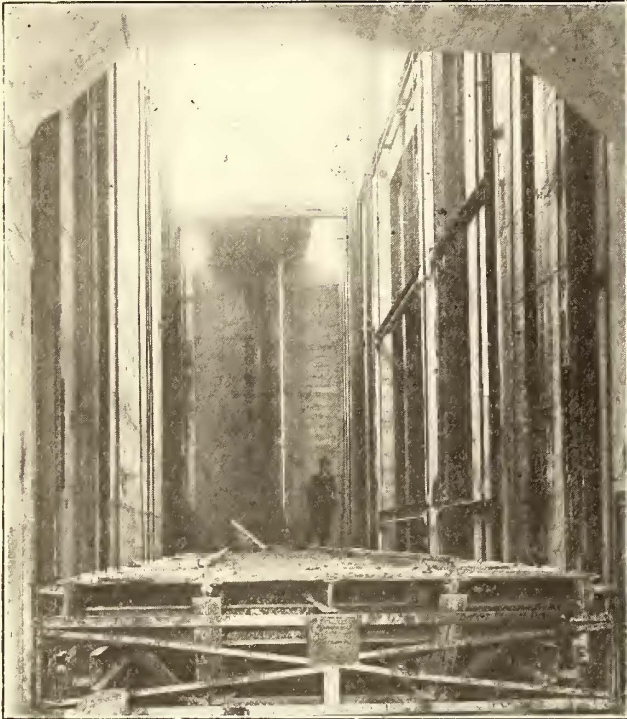
PLAN OF ELEVATED WORK AT FOREST HILLS, BOSTON

in progress since last May, having been practically called off the latter part of September, the operation of the various lines is now on a larger and more satisfactory scale than it has been at any time since the earthquake. A large amount of new construction work, however, remains to be done, but this is now being pushed as rapidly as possible. According to General Manager Black there are now 450 cars in operation on the lines. They are mostly of the new

at street intersections. The motormen received the new orders a few days ago and inspectors have been given instructions for their strict enforcement. The United Railroads have begun the work of restoring their portion of Harrison Street, between Fourth and Sixth Streets, so that the companies having contracts with the Board of Supervisors for repairing this thoroughfare can begin operations shortly.

CAR ELEVATOR FOR THE HUDSON RIVER TUNNELS

An interesting elevator installation has recently been completed at the Hoboken, N. J., terminal of the Hudson & Manhattan Railway Company tunnels under the Hudson River. This elevator is to take in and remove from the tunnels the electrically equipped passenger cars which will operate in these tunnels. It is located in the yard of the Hudson Companies, which adjoins the Hoboken terminal of the Lackawanna Railroad.



AT THE BOTTOM OF THE WELL

The passenger cars which will operate in the tunnels are 48 ft. long, over all, and 9 ft. wide. They weigh when empty 64,000 lbs., and when loaded with passengers 85,000 lbs. To raise and lower these cars into and out of the tunnel there has been installed an elevator of 100,000 lbs. lifting capacity, with a platform 50 ft. long and 12 ft. wide.

Provision for this elevator was made first by constructing a wellway, having reinforced concrete walls from the ground level to the tunnel. Upon the side walls of this structure are placed six steel columns supporting a steel girder framing directly over the hoistway, and upon these girders the machine operating the elevator platform is placed.

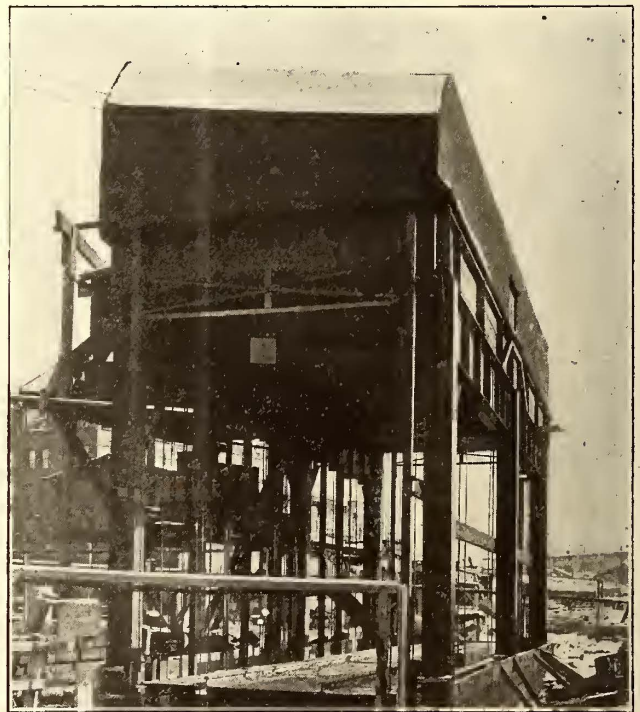
This machine consists of two drum shafts each 50 ft. long, one placed near each side of the wellway. These drum shafts are at the center of their length, driven by a system of four balanced worm gears, arranged so that the load on all four worm gears is equal under all conditions of platform load. All thrust loads are balanced by the worm shafts, which have right and left hand worms operating the worm gears. These worms and gears run in oil baths in tight casings. The entire system of drum shafts, worm gears and worm shafts is driven by one 100-hp motor placed at the center of one side of the elevator machine.

The elevator platform is constructed with two longitudinal steel girders, one under each rail, with suitable steel framing to support the suspension sheaves whereby the platform is suspended from and operated by the elevator machine. The floor of the platform, which is 600 sq. ft. in area, is covered with diamond pattern steel floor plates.

At the sides of the elevator platform thirty-two $\frac{3}{4}$ -in. dia. steel cables are dropped from the machine above. These cables pass under suspension sheaves below the steel-plate floor of the elevator and return to anchorage in the steel overhead structure. By this arrangement one-half the load is suspended directly by the overhead structure and one-half is suspended from the drums of the elevator machine. In addition to the thirty-two machine cables, the platform is suspended by eight counterweight cables, making a total suspension of the elevator platform and load by forty $\frac{3}{4}$ -in. dia. steel cables, having a total combined strength of 1,552,000 lbs. The machine and cables are so arranged that the elevator platform cannot incline from a horizontal position wherever the load may be placed upon the elevator platform. Iron frame gates are provided which close when the elevator platform is not at the landings.

The elevator is controlled electrically by a pilot switch operated by a hand shipping cable, and the elevator may at the will of the operator be run at speeds of 10 to 20 ft. travel per minute, the platform stopping automatically at the track levels. The rise of the elevator from the tunnel track to the surface track is about 30 ft. The elevator platform will be equipped with the third rail, which will be alive only when the platform is at the track levels, and the tunnel cars may be run by their own motors on, off or across the elevator platform. Provision has been made to hold the elevator platform securely in position while the cars are run upon it.

In addition to the usual service of this elevator handling cars into and out of the tunnels, it is arranged to be utilized for quickly changing one or both of the motor trucks under a car body. For this purpose the elevator plat-



VIEW AT TOP OF ELEVATOR

form travels three feet above the surface tracks, and when in this position blocks are thrown in place under the car body, the truck connections are released, and as the elevator platform descends the car body remains suspended upon the blocks while the trucks descend on the elevator platform. New trucks are placed under the car body in similar manner. This operation permits the quick interchange of car bodies and trucks when either may require repairs.

The following figures of this elevator are of interest when compared with the usual freight elevator: Size of elevator platform, 50 ft. x 12 ft.; lifting capacity, 100,000 lbs., additional to the weight of the elevator platform; weight of elevator platform, 32,000 lbs.; suspended by forty $\frac{3}{4}$ -in. steel cables of combined strength of 1,552,000 lbs., and weight of counterweights, 63,800 lbs.

This elevator is now handling rails, ballast and other tunnel equipment material. It provides the only means of access of the cars into and out of the tunnel. The construction of the elevator is fireproof throughout. The lifting capacity of this elevator is fifty tons, but it has handled loads of sixty-five tons with safety. It is believed to be the largest elevator in size and lifting capacity that has been constructed.

The elevator was built and installed by the Geo. T. McLauthlin Company, of Boston, Mass., under designs and patents of Martin B. McLauthlin. The same company has installed a considerable number of railroad car elevators in New York and elsewhere.

THE FRANCO-BRITISH EXPOSITION OF 1908

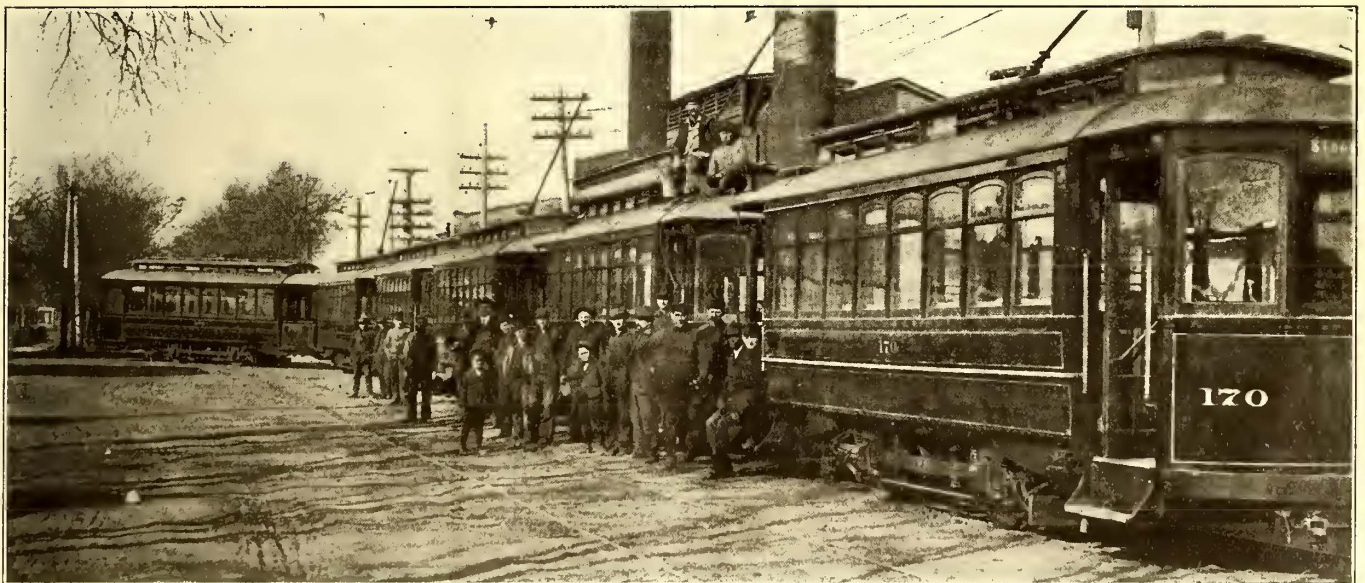
This exposition, of which a short notice was published recently in this paper, is to be opened at Shepherd's Bush, London, in May, 1908. The site consists of 140 acres within four miles of Charing Cross, and the principal entrance will be immediately adjoining the terminal station of the Central London Railway. It is also close to stations of the London & Northwestern and the Great Western Railways and the Metropolitan, Hamersmith & City Railway, as well as through tube and main line railways and tramways.

Canada has secured an area of 120,000 square feet.

The honorary president of the exposition is the Duke of Argyll, who is also president of the Tramway & Light Railway Association of Great Britain. The other officers include gentlemen prominent in national affairs in Great Britain. Thus, the chairman of the department of surface transportation is Sir J. Clifton Robinson, chairman of the London United Tramways; the chairman of the department of transportation is H. Cosmo Bonsor, chairman of the Southeastern & Chatham Railway; the chairman of the department of electrical engineering is Dr. R. T. Glazebrook, president of the Institute of Electrical Engineers.

MORE CARS FOR WICHITA

The town of Wichita, Kan., has had a remarkable growth, as is evidenced by figures lately compiled by the Wichita Railroad & Light Company showing the number of passengers carried in the past few years. In 1899 the records show that 425,000 passengers paid fares and the year following the figures jumped to one million; in 1906 over four and a half millions of passengers were carried, and when the records for the present year are complete it is expected they will show that five and a quarter millions were carried. Of course, the railway company has been active in meeting the demands, and it has been necessary on three occasions this year to provide more cars for the various lines. In all, sixteen cars were added, twelve of which were of the type illustrated, and the remainder of the standard open type. All were supplied by the American Car Company. Six of the closed cars were shipped this month, and are identical to those shipped in the spring and described in these columns. The J. G. Brill Com-



NEW CARS PREPARED FOR SERVICE IN WICHITA

The various methods of transportation are capable of conveying to the spot 75,000 persons per hour. The exposition will be housed in twenty buildings, one of the largest of which will be Machinery Hall, which will contain with its annexes about 200,000 square feet of floor space. Other buildings will be devoted to education, fine arts, liberal arts, electricity, science, applied arts and music. One-half of the space will be devoted to exhibits from France and the French colonies; the other half will be devoted to exhibits from Great Britain and the British colonies and dependen-

pany furnished the seats and numerous specialties, such as gongs, signal bells, angle-iron bumpers, etc., as well as the trucks, which are of the No. 21-E type with 8 ft. wheel base. Some of the dimensions are: Length over end panels, 20 ft. 8 ins.; over crown pieces, 31 ft. $\frac{1}{2}$ in.; width over sills, including panels, 7 ft. $9\frac{1}{2}$ ins.; over posts at belt, 8 ft. 2 ins.; side sills, 5 ins. x $3\frac{3}{8}$ ins., with $3\frac{1}{2}$ in. x $\frac{3}{8}$ -in. x 6-in. angle-iron; end sills, $3\frac{1}{2}$ ins. x $8\frac{3}{8}$ ins.; length of front platform, 4 ft. $8\frac{1}{2}$ ins.; rear platform, 5 ft. 8 ins.

LEGAL DEPARTMENT*

CARRYING BAGGAGE

In *Pitcher v. Old Colony Street Railway Company*, in the Supreme Judicial Court of Massachusetts (June, 1907, 81 N. E. 876), it appeared that plaintiff was a passenger on an ordinary street car, having seats running lengthwise on each side. As she was leaving the car, she stumbled over a bag which another passenger had placed on the floor, and fell, receiving injuries for which she sued. The bag did not obstruct free passage from the car, and did not render the passageway dangerous to a person exercising due care. It was held that the conductor was not negligent as a matter of law in suffering the bag to be placed and to remain on the floor. It was further held that evidence that it was not customary to have racks for baggage or parcels in street cars, and that it was the custom to allow passengers to put hand baggage and dress-suit cases on the floor, was admissible as bearing on the question whether defendant exercised due care in the premises.

The result of this case is certainly just. It would be impracticable to make an absolute rule that nothing in the nature of hand baggage may be taken into a street car. It probably would also be impracticable to prescribe that baggage shall not be permitted under any circumstances, unless it be held in the lap or at least off the floor of the car or platform. In the case under discussion, the questions both of defendant's negligence and plaintiff's contributory negligence were submitted to the jury, and a general verdict for defendant was rendered. Cases are readily imaginable, even if this Massachusetts case was not one of them, in which, on conceded facts as to the small size of the piece of baggage, the position in which it was placed, and its not being hidden in any way from anybody who chose to look, the court ought to hold, as a matter of law, that the railway company was not negligent. On the other hand, the servants of a street railway company might admit baggage of such bulky or dangerous character that its presence and position would be sufficient to establish the defendant's negligence.

Usually the question is one of reasonable care under the facts of each case. This principle is recognized by the Massachusetts court when it holds that it would have been error to instruct the jury as requested "that under all conditions the aisles, entrances and exits should be kept free from all obstructions by the use of the highest possible degree of care and caution on the part of street railway companies" engaged in transportation of passengers.

There are times when a street car connecting with a railroad ferry takes on board a sufficient number of passengers with dress-suit cases to turn it for the time being to a large extent into a baggage car. It may be that some rule ought to be adopted to cover such cases, although it is difficult to say just what the substance and form of the regulation should be. But, between absolutely prohibiting baggage and admitting such quantity as does not interfere with the safety or reasonable convenience of passengers, there is a wide range. The matter of liability must depend largely upon the exercise of discretion by the conductor.

LIABILITY FOR NEGLIGENCE.

ALABAMA.—Carriers—Passengers—Duty to Protect from Violence of Other Passengers—Question for Jury—Liability of Carrier.

A carrier owes to its passengers the duty of protecting them

from violence and insults of other passengers, so far as it can be done in the exercise of a high degree of care, and is liable for its own or its servant's neglect in this particular, when by exercising proper care the violence might have been foreseen and prevented.

If an intoxicated street car passenger weighing about 225 lbs. was unable to stand, and his condition was known to the conductor, the conductor was negligent toward other passengers in permitting him to walk up and down the aisle while the car was in motion.

In an action against a carrier for personal injury to a passenger caused by an intoxicated passenger falling, whether the conductor in the exercise of the care required by law could have foreseen that the intoxicated passenger might do injury to some other passenger, held, under the evidence, a question for the jury.

A carrier's servant may eject a drunken and disorderly passenger, when necessary to protect other passengers against his insults or violence; but, if injury to another passenger could have been avoided by requiring the drunken passenger to be and remain seated, the carrier cannot avoid liability for the injury by the servant's failure to perform that duty.—(*Montgomery Traction Co., vs. Whatley*, 44 S. Rep., 538.)

ALABAMA.—Damages—Excessive—Personal Injury.

A verdict of \$3,400 for personal injury was not excessive, where plaintiff was considerably bruised and injured, and there was evidence that a part of his injury was of a permanent character, tending to shorten his life; organic heart trouble, liable to produce death at any time having been developed or aggravated.—(*Montgomery Traction Co. vs. Bozeman*, 44 S. Rep., 559.)

ALABAMA.—Street Railroads—Collision with Vehicle—Injuries to Driver—Action—Complaint—Torts—Willfulness—Defenses—Contributory Negligence—Injuries to Traveler—Action—Variance—Operation of Cars—Duty to Look Out—Wantonness.

In an action against a street railroad company for injuries to the driver of a vehicle in a collision with a car, a count alleging that the injury resulted from the wanton and willful negligence of defendant's servants in control of the car sufficiently charged that plaintiff's injuries were wantonly or intentionally inflicted.

In an action for injuries alleged to have been willfully inflicted, contributory negligence is no defense.

Where a count in an action for injuries in a collision between defendant's street car and a vehicle charged simple negligence, and alleged that the collision occurred at a point where defendant's track was on a public highway, but the proof showed that the wagon was struck while on defendant's track, not on a highway, there was a fatal variance as to such count.

A street railroad company, operating its cars over a public highway, is required to keep a lookout for travelers on the highway; but no such duty is required at points along its track outside the highway.

Where a count in a complaint against a street railroad company for injuries to a traveler outside a highway alleged that the injuries were inflicted intentionally, it could not be supported by proof of a failure to discover plaintiff's peril, but was dependent on the failure of defendant's employees to use proper means to stop the car after actually discovering such peril.—(*Birmingham Ry., Light & Power Co. vs. Brown*, 44 S. Rep., 572.)

ALABAMA.—Carriers—Injury to Passenger—Action—Evidence—Trial—Questions to Witness—Objection—Instructions—Theory of Trial.

Where, in an action for injuries to a passenger, she alleged that her car stopped at a place where it was customary to stop to let off passengers, and that as she was attempting to alight the car suddenly started, whereby she was injured, it was proper to permit a witness to testify that cars usually stopped there to let off passengers.

A party cannot object to a question to a witness for the first time after the question is answered.

Where, in an action for injuries to a passenger owing to the sudden starting of a car, defendant proceeded throughout the trial on the assumption that it operated the car, it was not entitled to an instruction based on the ground that there was no evidence that it operated the car.—(*Birmingham Ry., Light & Power Co. vs. Taylor*, 44 S. Rep., 580.)

*Conducted by Wilbur Larremore, of the New York Bar, 22 Nassau Street, New York, to whom all correspondence concerning this department should be addressed.

CALIFORNIA.—Damages—Personal Injury—Future Consequences—Evidence—Admissibility—Causes—Injury to Passenger—Joint Liability—Defenses—Last Clear Chance.

To justify a recovery for future consequences resulting from a personal injury, the evidence must show with reasonable certainty that such consequences will follow from the injury.

Where, in an action for personal injury, the evidence showed that plaintiff sustained a fracture at the base of the brain, the testimony of physicians that in a majority of cases, where the injury consisted of a fracture at the base of the brain, epilepsy, paralysis, or mental deterioration would result in the future, was admissible to prove future suffering on which the jury could award damages for future injury.

Where a passenger in a street car injured in a collision between the car and a car operated by another company sued both companies, and showed that the collision was due to the joint or concurrent acts of negligence of the two companies, an instruction confining a recovery against the company having the last clear chance to avoid the collision and neglecting to act on it was properly refused; the rule of last clear chance being only applicable to cases where the defense is contributory negligence.

One having a right to recover against either of two joint wrongdoers or both cannot, in an action against both, be involved in litigation to determine the question of the respective rights of the wrongdoers as against each other.—(Cordiner vs. Los Angeles Traction Co., et al., 91 Pac. Rep., 436.)

CALIFORNIA.—Street Railroads—Injury to Person on Track—Contributory Negligence—Trial—Introduction of Evidence—Rebuttal.

Decedent was guilty of contributory negligence barring recovery for his death, where at night he attempted to cross a street railway track in front of a moving car, when it was from 8 to 15 feet distant, the headlight plainly visible and the gong ringing.

In an action for a pedestrian's death caused in collision with a street car, any error in excluding evidence for plaintiff as to the car's speed was harmless, where the death resulted from contributory negligence.

Where, in an action for the death of a pedestrian attempting to cross a street car track at night, plaintiff offered testimony as to the absence of signal lights at the place, at the close of defendant's case, it was not error to exclude similar testimony; the evidence being not in rebuttal, and no reason being given tending to appeal to the discretion of the court, nor excuse given for not offering the testimony when the other was given.—(Higgins, et al., vs. Los Angeles Railway Co., 91 Pac. Rep., 344.)

GEORGIA.—Corporations—Liability for Torts of Agent—Master and Servant—Injuries to Third Persons—Liability of Master.

A street railway company is liable for a tort committed by its conductor in the prosecution and within the scope of its business, whether by negligence or wilfully.

Where a petition alleged that a conductor on the car of a street railway company, while engaged in the prosecution and within the scope of his business in collecting fares, failed and refused to give a passenger correct change, and, upon request therefore, drew a pistol and fired at the passenger, but that the ball missed the passenger and struck a woman passing on the public street through which the car was running, causing her death, and that the plaintiffs were the husband and children of the decedent, the allegations set out a cause of action against the company, and the petition was not demurrable.

Allegations that the company knowingly placed in charge of one of its passenger cars a conductor of bad character, who was drunk and armed with a pistol, and that a homicide occurred in the manner indicated in the preceding note, were not demurrable.—(Savannah Electric Co. vs. Wheeler, et al., 58 S. E. Rep., 38.)

MISSOURI.—Carriers—Injury to Passengers—Instructions—Negligence—Contributory Negligence—Burden of Proof.

In an action against a carrier for personal injuries, where there was a defense of contributory negligence, an instruction which authorizes a recovery for plaintiff on facts hypothesized in it, without limiting it by reference to contributory negligence, is not reversible error, where other instructions submit the question of plaintiff's contributory negligence.

In an action for negligence, the burden of proving contribu-

tory negligence is on defendant.—(Underwood vs. Metropolitan St. Ry. Co., 102 S. W. Rep., 1045.)

MISSOURI.—Master and Servant—Action for Injuries—Evidence—Sufficiency—Burden of Proof—Presumptions—Res Ipsa Loquitur.

In an action by a motorman for injuries sustained by the explosion of the controller on a street car, expert proof held not to show the cause of the explosion to be the defective condition of the controller or the want of necessary inspection.

Where, in an action by a motorman for injuries sustained by the explosion of the controller on a street car, it was alleged that the railroad company was negligent in that the defective condition of the controller could have been discovered by ordinary care in inspecting the same, the burden was on the motorman to show that the controller was defective to the knowledge of the railroad company, had it exercised ordinary care; no presumption of negligence arising from the happening of the accident.

The doctrine of res ipsa loquitur is inapplicable where an injury has resulted to a motorman by the explosion of the controller on a car; that doctrine being inapplicable where injuries result from complicated machinery.—(Beebe vs. St. Louis Transit Co., 103 S. W. Rep., 1019.)

MISSOURI.—New Trial—Grounds—Disqualification of Juror—"Striking" Employee—Damages—Grounds—Expenses—Nursing by Family—Carriers—Personal Injuries—Damages—Excessive Damages.

In an action against a street railway company for personal injuries, a juror on his voir dire testified that he had no business relations with or interest in the defendant company, and that he had no bias or prejudice against the parties, or either of them. It afterwards appeared that the juror had been an employe of defendant company, who had gone on a strike, which had continued for several months, during which feeling ran high and defendant's tracks were demolished by dynamite. A motion for a new trial was made on that ground, and on the hearing the juror was offered as a witness for plaintiff. He did not admit that he was one of the strikers, nor did he deny the charge made against him, but repeated that he had no prejudice either way. It was shown by affidavits that he was one of the leaders in the strike. An unusually large verdict was returned by the jury. Held, that a new trial should have been granted.

In an action by a passenger for personal injuries, the testimony of plaintiff showed that she was 52 years of age, and had been in perfect health prior to the accident, and was earning from \$30 to \$40 per week, and that she had suffered a great deal of pain in her back, dizziness in her head, numbness in her limbs, and severe pains in her hips and legs; that she could get around the room with great difficulty; that she was unable to work or take care of herself, and was as helpless as a child; that she had paid \$10 to a physician for consultation and \$35 to a masseuse, but two larger doctor bills had not been paid. A physician testified that she showed evidence of traumatic neurasthenia and appeared to be losing strength. He diagnosed the case as traumatic or railroad spine. Another physician, a specialist, treated plaintiff for about 10 months. He found her condition a nervous one, with symptoms of concussion of the spine. He considered plaintiff an invalid who would never permanently recover. Another physician testified that she was suffering from neurasthenia or nervous exhaustion; that she had suffered a great deal of pain, but presented no evidence of any organic disease. He could not state whether the condition was permanent or temporary. Defendant's surgeon, who treated plaintiff for about two weeks immediately after the accident, testified that a week or 10 days later, he went to see her, saw her sitting by the window, but, after being admitted to the house, found that she had gone upstairs and had gotten into bed with her clothes and shoes on. A physician appointed by the court to examine plaintiff did so in the presence of her physician. In his opinion she had no permanent injuries. He was a specialist in neurosis. Held, that a verdict of \$30,000 was excessive.—(Gibney vs. St. Louis Transit Co., 103 S. W. Rep., 44.)

MISSOURI.—Street Railroads—Injuries to Person on Track—Actions—Instructions—Trial—Instructions—Conformity to Evidence—Conformity to Issues—Appeal—Review—Harmless Error—Exclusion of Evidence—Evidence—Opinion Evidence—Conclusion of Witness—Witnesses—Impeachment—Inconsistent Statements—Plea of Privilege.

An instruction, in an action for the death of one who was

struck by a street car, that, as to the alleged negligence of defendant in operating its car at an excessive speed, under the ordinances of the city defendant had a right to operate its car at a speed not exceeding 10 miles an hour, and that before the jury could find against the defendant for excessive speed they must find either that defendant operated its car in excess of 10 miles an hour, or at such a speed which under the evidence amounted to negligence, and unless the jury so found, and that such excessive speed was the cause of the death, then plaintiff could not recover on account of such speed, was not objectionable as stating that the railway company had the absolute right to run its cars 10 miles an hour, regardless of the circumstances.

Where, in an action for the death of one who was struck and dragged by a street car, plaintiffs did not ask an instruction submitting the question whether there was a failure to sound the gong, but the only issues in reference to defendant's negligence submitted to the jury under plaintiffs' instructions related to the alleged failure to stop the car in time to avoid the accident and running in excess of the speed ordinance, an instruction, for defendant, following the charge in the petition and in form the same as instructions given for plaintiffs, that plaintiffs could not recover on account of failure to sound the gong, unless the failure caused the death, was not ground of complaint by plaintiffs.

An instruction, in an action for the death of one struck by a street car, that as to the charge of negligence, in that the motorman failed to stop the car after plaintiffs' son was in a position of peril, this principle of law did not apply unless plaintiffs' son was in such position a sufficient length of time to enable those in charge of the car to stop, or to check the same, so as to avoid striking him in the exercise of ordinary care and with the means at hand for stopping the car, was not erroneous as leaving out of consideration the duty of the motorman to be on the lookout to discover the peril.

Where, in an action for the death of one who was struck by a street car, there was no evidence that would warrant submitting the proposition that the boy struck lost his life, not in being struck, but in being dragged, instructions that if the boy was of sufficient age, judging him by boys of his age, to appreciate the danger, and he went upon the track without looking or listening, so close to the car that the motorman with ordinary care could not avoid hitting him, the defendant was not liable, and that if he undertook to cross the track in front of the car while the same was so close as to prevent the motorman in the exercise of ordinary care from stopping, whereby he was struck and killed, then plaintiffs could not recover, were not erroneous, in that they did not deal with the question of dragging after the boy was struck.

Where, in an action for the death of one who was struck and dragged by a street car, plaintiffs sought a verdict on the theory that the motorman failed to use ordinary care to stop the car after he discovered their son was in danger at a sufficient distance to have permitted the car to have been stopped before striking him, an instruction for defendant that if plaintiffs' son undertook to cross the street in front of the car, and while the same was so close as to prevent the motorman in the exercise of ordinary care from stopping so as to avoid striking him, whereby plaintiffs' son was struck, plaintiffs could not recover, was not erroneous, in that it failed to state that, though the boy may have come on the track so close to the car that it was impossible for the motorman to stop, yet, if that impossibility was caused by the excessive speed, the defendant was liable; that not being the theory on which the case was tried.

In an action for the death of one who was struck and dragged by a street car, after a witness for plaintiff had testified that "he stumbled there," it was objected by defendant that witness was stating a conclusion, which objection the court sustained, but the record showed that the objection was aimed at what witness had said in the sentence preceding, that "evidently, as I found later, there was a hole where the bricks had been sunken, was what caused the child's fall," and the witness had before stated that the child stumbled. Held, that there was no error in the ruling.

In an action for the death of one who was struck and dragged by a street car, evidence "that there were persons on the platform, and that the conductor evidently was talking to some one on the platform," was properly excluded as a conclusion of the witness.

In an action for the death of one struck and dragged by a street car, evidence to impeach the motorman, who testified for

defendant, that at the coroner's inquest, when asked to state the circumstances of the accident, he replied, "I don't care to testify—I might incriminate myself," was properly excluded.—(Masterson et al. vs. St. Louis Transit Co., 103 S. W. Rep., 48.)

MISSOURI.—Carriers—Street Railroad—Passengers—Care Required—Injury to Passenger—Res Ipsa Loquitur—Malicious Acts of Third Person—Negligence of Defendant's Servants—Trial—Instructions—Conformity to Issues—Carriers—Injury to Passenger—Question for Jury—Damages—Personal Injuries—Evidence.

A street car company as a carrier of passengers is bound to exercise the highest care and skill for the safety of passengers that a prudent man would exercise in a like business and under like circumstances.

Where a street car passenger was injured by the derailment of a car caused by a brick on the track, plaintiff established a prima facie case by proof of her relation as a passenger, and that she was injured by the derailment of the car.

Where plaintiff, a street car passenger, was injured by the derailment of a car caused by a brick maliciously placed on the track by a boy, and, though the motorman could have seen the brick in time to have stopped the car before striking it or at least reduced the speed so as to have prevented the derailment, he did neither, the malicious act of the boy was no answer to the street car company's liability for plaintiff's injuries.

In an action for injuries to a street car passenger, an instruction that if, before plaintiff reached her destination, the car left the track and struck a post, causing plaintiff to be thrown from her seat and sustain the injuries complained of, she was entitled to recover, unless defendant showed by a greater weight of evidence that it could not have prevented such derailment by the exercise of the highest degree of care employed by a very careful railroad under the same or similar circumstances in maintaining its tracks in the same condition, and in the management and control of cars, etc., was proper.

Where, in an action for injuries to a street car passenger by derailment, the charge given fully covered all the issues in the case and a vigilant watch ordinance in no manner affected it, the court did not err in refusing to charge that, while it was the duty of defendant's motorman to exercise that degree of care that a very careful motorman would be expected to use to avoid injury to plaintiff, it was also his duty to keep a vigilant watch for persons on or approaching the tracks, especially children, and that if children immediately before the accident were running or playing about the track so as to be in danger, and defendant's motorman, seeing the children, was putting his car under control and sounding his gong in order to warn them, and while so engaged he failed to see the brick on the track which caused the derailment, etc., it was not a part of his duty to anticipate that a boy would run suddenly from the sidewalk and place a brick on the track.

Where a street car passenger was injured by the derailment of the car caused by a brick placed on the track by a boy some 40 or 50 feet in front of the car, whether the motorman by the exercise of reasonable diligence could have seen the brick placed on the track, or could have seen it after it had been placed there for a sufficient length of time to have permitted him, with the means and appliances at his command, to stop the car, was for the jury.

Plaintiff, a married woman, 35 years of age and enceinte, was thrown from her seat in a street car by the derailment thereof against the seats and timbers of the car, striking on her abdomen and right chest. She was rendered unconscious for a few minutes, when she immediately went home and sent for a doctor. She suffered a miscarriage of a three months' fetus on the succeeding evening, and was confined to her bed for six weeks. Her health was poor after she was able to get up, and her physician testified that she could never be entirely well without an operation, which would be necessarily dangerous, that he had continued to treat her up to the time of the trial, and that her trouble would require continued treatment. Two other experts, who had examined plaintiff under order of court, testified that she did not have a retroverted womb. Held, that a verdict allowing her \$7,500 allowed to stand by the trial court was not so excessive as to indicate passion and prejudice.—(O'Gara vs. St. Louis Transit Co., 103 S. W. Rep., 54.)

MISSOURI.—Street Railroads—Collisions—Injuries to Pedestrians—Negligence—Municipal Corporations—Torts—Gov-

ernmental Powers—Negligence of Agents—Liability—Damages—Personal Injury—Petition—Evidence—Admissibility—Appeal—Harmless Error—Witnesses—Examination—Damages—Instructions.

In a suit against a street railway company and a city for injuries to a pedestrian in consequence of a collision between a car and a vehicle of the city under the control of an employee thereof, evidence held insufficient to show negligence on the part of the company.

A city is liable for the negligence of its servants engaged in removing piles of dirt from its streets, though the removal may in a remote degree be referable to governmental regulation to promote the general health of the city.

Where the petition in an action for personal injuries alleges an injury to the head, eyes, spinal cord, and muscles and ligaments surrounding the same, the extent of which could not be known, evidence of plaintiff's loss of memory and injury to his eyes was admissible.

The error, if any, in overruling an objection to a hypothetical question, asked a physician in a personal injury action, as to whether he would attribute plaintiff's nervous condition to the accident, was harmless, where the answer was that that was possible.

Where, in an action for personal injuries, the petition alleged that plaintiff incurred expenses for medicine, medical care and attention, and there was proof of application of medicine and of medical care and attention, with the charge therefor, an instruction submitting the question of expenditure for medicine was proper.—(Young vs. Metropolitan St. Ry. Co., 103 S. W. Rep., 135.)

MISSOURI.—Carriers—Injuries to Passenger—Instructions—Evidence—Admissions—Conclusiveness.

Where, in an action for injuries to a passenger, plaintiff claimed that the car started suddenly while she was boarding it, an instruction submitting the question whether the car was suddenly started, and that defendant's servants knew, or by the exercise of "proper care" should have known, that plaintiff was on the step, was not erroneous because of the phrase "proper care"; the requisite care having been previously properly stated.

A requested instruction that plaintiff's statements against her interest must be regarded as absolutely true was properly modified so as to read that they were presumably true.—(Randolph vs. Metropolitan St. Ry. Co., 102 S. W. Rep., 1085.)

MISSOURI.—Street Railways—Negligence—Excessive Speed—Duty of Railway—Contributory Negligence—Pleadings.

The running of a street car at a speed of from 15 to 40 miles an hour along a street in the populous part of a city, without reducing the speed at street intersections, is not only negligence, but is a wanton and reckless act.

It is the duty of the operators of an electric street car to keep it under reasonable control while passing through well-populated districts, and especially while approaching street crossings.

The fact that one approaching a street railway crossing is justified in assuming that an approaching car will be operated with reasonable care, and will not be negligently run at an excessive rate of speed, does not absolve him from the duty of attending to his own safety.

Where plaintiff, on nearing a street railway crossing, saw a car, about 315 feet away, approaching at a speed of from 15 to 40 miles an hour, and nevertheless attempted to cross the track, he was guilty of contributory negligence.

In an action against a street railway for injuries received by plaintiff while attempting to cross a track in front of defendant's car, a petition, alleging that the motorman of the car could have prevented the injury by stopping the car or checking the speed, had it been operated at a reasonably careful rate of speed, was insufficient to state a cause of action predicated on a violation of the duty of defendant to stop the car after seeing plaintiff in a place of danger, although plaintiff was guilty of contributory negligence in placing himself in a dangerous position.—(Grout vs. Central Electric Ry. Co., 102 S. W. Rep., 1026.)

MISSOURI.—Carriers—Injuries to Passenger—Sufficiency of Evidence—Burden of Proof—Damages—Married Women—Pleading—Sufficiency—Carriers—Injuries to Passenger—Action—Pleading.

In an action against a street railway for injuries received by plaintiff as a result of stepping on an electrified plate in de-

fendant's car, evidence examined, and held to show that plaintiff was injured as a direct result of the shock.

Where a passenger on a street car was injured by stepping on an electrified metal plate in defendant's car, and receiving an electric shock, the burden was on defendant to show that the presence of the electricity could not have been detected and prevented by the exercise of the highest degree of care.

In an action by a married woman for personal injuries, plaintiff may recover damages for physical or personal inconvenience resulting from the injury.

In an action against a street railway for injuries received by plaintiff through stepping on an electrified metal plate on defendant's car, allegations in the petition that as a result of the injuries plaintiff's lower limbs were partially paralyzed, her nervous system injured and diseased, and she suffered severe pains, etc., and that, as a result of the injury, she was for a considerable period of time confined to her bed, and was unable to perform her household duties, etc., were broad enough to include damages on account of physical inconvenience.

In an action against a street railway for injuries, a petition alleging that plaintiff, in passing over the floor of the defendant's car, received a severe electric shock through stepping on an electrified plate on the floor of the car, and that the shock was caused by the negligence of the defendant in negligently constructing, maintaining, and operating the car, sufficiently alleged negligence on defendant's part.—(McRae vs. Metropolitan St. Ry. Co., 102 S. W. Rep. 1032.)

MISSOURI.—Street Railroads—Injuries to Pedestrians—Collisions—Contributory Negligence.

A pedestrian, before crossing a street on which double tracks for cars were maintained, looked in one direction, and saw a car approaching on one track, and waited until it passed, when she started and was struck, on stepping onto the other track, by a car coming from the other direction. There was a space of a few feet between the tracks. Held, that she was guilty of contributory negligence precluding a recovery.—(Ross vs. Metropolitan St. Ry. Co., 102 S. W. Rep., 1036.)

MISSOURI.—Street Railroads—Operation—Duty of Railway—Negligence—Crossing Accident—Injuries to Driver of Vehicle—Rights of Pedestrians—Pleading—Scope—Duty of Traveler on Public Street—Contributory Negligence—Question for Jury—Instructions.

It is the duty of a street railway to so construct its road and equip and operate its cars that the latter may be readily controlled by the operators, under all conditions and in all situations reasonably to be anticipated.

Before descending a steep hill, down which its line ran, defendant was accustomed to stop its cars, and it was the conductor's duty not to give the signal to start until he was at the hand brakes on the trailer of the train prepared to use them if necessary. At the time of the accident the train was so crowded that, when brought to a stop at the top of the hill, the conductor had difficulty in reaching his position, and the gripman started the car without the signal from the conductor, the car acquiring some speed before the latter reached the hand brake. The gripman had detached his hold on the cable, and set the brakes under his control in such a manner that they locked the wheels, causing them to slide on the rails. Had the brakes been set with less force, such sliding would have been avoided, and the train could have been brought to a standstill. The gripman was a raw hand, inexperienced, and incompetent, and the train sliding down the hill struck the vehicle plaintiff was driving. Held, that defendant was negligent.

Travelers on public thoroughfares traversed by street cars have the right to presume that the street car company will not negligently overload its cars, thereby imperiling the safety of travelers by losing control of the cars.

In an action against a street railway for injuries received by plaintiff by being struck by one of defendant's cars, a petition alleging that by reason of defendant's negligence in the operation of its road, its equipment, its trains, and cars running thereon, its negligent failure to stop one of its cars before crossing a street, etc., plaintiff was injured, included defendant's negligent act in making a premature start at the top of a hill on the descent whereof plaintiff was injured, permitting the train to attain a too rapid rate of speed in the descent, the negligent handling of the brakes, the failure to apply sand to the rails to prevent the wheels from sliding on them, and the negligent overloading of defendant's cars, whereby they could not be controlled.

It is the duty of a traveler on a public street, when approaching a railway crossing, to make a reasonable use of his senses of sight and hearing before entering the sphere of danger to ascertain whether the safety of his passage on the crossing is threatened by approaching cars, and to act with reasonable care to avoid an encounter with present danger.

A traveler on a public street has a right to presume that the operators of approaching street cars are exercising and will continue to exercise reasonable care in approaching a crossing.

In an action against a street railway for injuries sustained by plaintiff being struck by defendant's car at a street crossing, the question of plaintiff's contributory negligence held one for the jury.

Where, in an action against a street railway for injuries received by a plaintiff by being struck by defendant's car at a street crossing, plaintiff alleged and proved that he attempted to cross defendant's track in reliance on a custom of the latter to stop its cars before crossing the street at the intersection, an instruction permitting a recovery for plaintiff if he was injured by reason of defendant's failure to stop the cars according to the custom, without requiring a further finding that plaintiff had knowledge of the custom, or that he relied on it, was prejudicial error.

An instruction which on an assumed hypothesis directs a verdict for the plaintiff, to be free from criticism, should contain all of the ingredients essential to the right of recovery under the pleadings and evidence.—(Percell vs. Metropolitan St. Ry. Co., 103 S. W. Rep., 115.)

MISSOURI.—Carriers—Street Railroads—Duty to Stop—Injury to Passengers—Res Ipsa Loquitur—Damages—Personal Injuries—Future Consequences—Pleading.

A street railroad company as a common carrier is bound to employ the highest degree of care to avoid injury to passengers, and, when signaled to stop at a regular stopping place, is required to bring the car to a complete stop, and hold it stationary until the departing passengers, in the exercise of reasonable care, may accomplish their departure in safety.

When a street car is stopped for passengers to alight, it is the duty of the carrier's servants, not only to hold the car stationary a reasonable length of time for the passengers to alight, but to look to the places of exit to ascertain that no passenger is in the act of alighting before giving the signal to proceed.

In an action for injuries to a street car passenger as she was endeavoring to alight, proof that the car was brought to a full stop to discharge and receive passengers that it suddenly started while plaintiff was stepping to the street, and that she was injured in consequence of a fall caused by the starting of the car, was sufficient to raise a presumption that the starting of the car was due to negligence.

When a street car passenger was injured by the alleged premature starting of the car as she was endeavoring to alight, and the facts raised a presumption of negligence on the part of the carrier's servants, its liability for the injuries sustained was fixed, unless it could show affirmatively that, notwithstanding the existence of such facts, the starting of the car was the result of unavoidable accident or some cause beyond its control.

In an action for injuries, an allegation that plaintiff was reasonably certain to suffer in the future great physical pain and mental anguish was not insufficient to raise such issue, because it did not charge in terms that she "would" suffer future pain.—(Bell vs. Central Electric Ry. Co., 103 S. W. Rep., 144.)

MASSACHUSETTS.—Street Railroads—Lien Under Massachusetts Law—Agreement to Issue Bonds.

Rev. Laws Mass. 1902, c. 112, § 23, requiring a street railroad company before issuing mortgage bonds to obtain authority therefor from the State Board of Railroad Commissioners, which may be granted only after a hearing and examination into the assets and liabilities of the company, and upon being satisfied that its property, exclusive of its franchise, equals or exceeds its indebtedness, embodies a rule of public policy which cannot be ignored nor overridden by the courts.

A provision in notes, given by a Massachusetts street railroad company, by which it agreed to issue to the holder as security certain of its bonds secured by a mortgage previously executed, as soon as a further issue of bonds thereunder should be authorized by the State Railroad Commissioners, whose authority was necessary before they could be legally issued under Rev. Laws, Mass. 1902, c. 112, § 23, does not place the notes on an equality with bonds previously issued, nor entitle the holders to any pref-

erence over general creditors where no further issue of bonds was authorized, and the company has become insolvent and is in the course of administration, although the circumstances were such as to create an equitable lien as between the parties which the courts would enforce in the absence of the statute.—(Augusta Trust Co. vs. Federal Trust Co. et al., 153 Fed. Rep., 157.)

NEBRASKA.—Carriers—Injury to Passengers—Contributory Negligence—Question for Jury—Evidence—Opinion Evidence.

It is a question of fact for the jury whether or not a passenger, who is riding on the lower step of a platform of a crowded street car, and who is thrown therefrom and injured by reason of the negligent operation of the car, is, by voluntarily riding in such place, guilty of such contributory negligence as will defeat a recovery.

Evidence as to the negligence of the defendant in the operation of the car examined, and held sufficient to require its submission to the jury.

A witness who sees a moving car, and possesses a knowledge of time and distance, is competent to express an opinion as to the rate of speed at which the car was moving. Omaha St. Ry. Co. vs. Larson, 97 N. W. 824, 70 Neb. 591, followed and approved.—(Coffey vs. Omaha & C. B. St. Ry. Co., 112 N. W. Rep., 589.)

NEBRASKA.—Carriers—Injury to Passenger—Contributory Negligence—Trial—Instruction.

A party cannot be charged with contributory negligence on account of taking a place on a crowded street car designated by the conductor of the car.

An instruction not based upon the evidence, although correct as a legal proposition, is ground for the reversal of a judgment if it has a tendency to mislead the jury.—(Boesen vs. Omaha St. Ry. Co., 112 N. W. Rep., 614.)

NEW JERSEY.—Street Railroads—Operation—Statutes—Local and Special Laws—Constitutional Law.

The traction companies act of March 14, 1893, authorizes companies incorporated thereunder to acquire and operate actually existing street railways, whether or not they are at the time being operated with legal authority.

Section 1 of the traction companies act of March 14, 1893, is a constitutional enactment.—(Mayor, etc., of Jersey City vs. North Jersey St. Ry. Co., 67 Atl. Rep., 113.)

NEW JERSEY.—Taxation—Property Subject—Franchises.

Under the supplement of April 11, 1866, to the general tax law of 1846 the franchises of a corporation are not taxable as property.

Under the general law of 1903, which exempts from taxation under this act, inter alia, "all offices and franchises, and all property used for railroad and canal purposes, the taxation of which is provided for by any other law of this state," all offices and franchises are excluded from taxation under this act, whether taxed under other laws or not. The qualifying clause relates only to the last antecedent, to wit, property used for railroad and canal purposes.—(North Jersey St. Ry. Co. vs. Mayor, etc., of Jersey City et al., 67 Atl. Rep., 33.)

NEW JERSEY.—Carriers—Injury to Passenger—Contributory Negligence.

When one who has alighted from a trolley car in which he had been a passenger passes behind the car and proceeds to cross the track on which cars run in the other direction, making no observation for his own safety except to "look up" when the car from which he had alighted prevented his view of the other track, and, without waiting until that car had passed sufficiently far to permit observation, enters on that track and is struck by a car thereon before he had seen it, which is not shown to have been running at excessive speed, his negligence contributing to the injury he received is so disclosed as to leave no question to be submitted to the jury.

Whether the duty which the trolley company owed to him as a passenger just discharged from one of its cars exceeded that which it owed to any foot passenger attempting to cross its tracks is not involved. The fact that he had been a passenger does not relieve him from the duty on his part to take reasonable care for his own safety.—(Eagen vs. Jersey City, H. & P. St. Ry. Co., 67 Atl. Rep., 24.)

NEW JERSEY.—Carriers—Injuries to Passengers—Evidence.

In an action for injuries sustained while alighting from a street car, evidence examined, and held to warrant the direction of a verdict for defendant on the ground that plaintiff alighted

before the car came to a stop.—(Dockham vs. North Jersey St. Ry. Co., 66 Atl. Rep., 961.)

NEW YORK.—Carriers—Passengers—Personal Injuries—Taking up Passengers.

The duty of a street car company to give a person a fair and reasonable chance to get aboard its car does not arise until the car has been brought to a stop or the person has been invited to board it.—(Schwartz vs. New York City Ry. Co., 105 N. Y. Sup., 1.)

NEW YORK.—New Trial—Inadequate Damages.

The evidence warranting a finding that plaintiff was intentionally thrown from defendant's car, on which he was a passenger, by the conductor, and fairly establishing that he was confined to his bed for six weeks and to the house two weeks longer by the resulting injury, that two ribs were broken, and both legs and his back and spine injured, as a result of which he had frequent fainting spells to the time of the trial, two years later, and that one knee joint was permanently injured by laceration of the ligaments, a new trial will be granted for inadequacy of damages; the verdict being for only \$200.—(Tourtelotte vs. Westchester Electric Ry. Co., 105 N. Y. Sup., 50.)

NEW YORK.—Appeal—Evidence—Reversal.

Where, in an action for injuries due to the alleged faulty construction of a subway, plaintiff's testimony and admissions with reference to the side of the train from which he alighted, were in irreconcilable conflict, he was not entitled to a reversal of a judgment for defendant, because the court limited the testimony with reference to defects to the west side of the platform in question, where a verdict for plaintiff could not stand.—(Zeigler vs. Interborough Rapid Transit Co., 104 N. Y. Sup., 822.)

NEW YORK.—New Trial—Verdict Contrary to Evidence—Credibility of Witness.

Plaintiff's case depending on the fact that the car came to a full stop before he attempted to alight, and that while he was doing so it suddenly jerked forward, and it not appearing that any one saw him when he alighted, and there being discrepancies in the testimony and contradictions on circumstantial points warranting the jury in doubting his testimony, the court could not set aside the verdict for defendant and grant a new trial on the ground that the verdict was contrary to the evidence; the credibility of plaintiff being for the jury.—(Foreman vs. New York City Ry. Co., 104 N. Y. Sup., 932.)

NEW YORK.—Master and Servant—Death of Servant—Negligence—Evidence—Contributory Negligence.

Evidence, in an action for death of an employee of a railway company, who, in attempting to cross its tracks in a subway, was killed by a car, held insufficient to show negligence.

Evidence, in an action for death of an employee of a railway company, who was killed by attempting to cross its tracks in a subway, jumping from the platform almost in front of a car, held to show contributory negligence.—(Kupec vs. Interborough Rapid Transit Co., 104 N. Y. Sup., 924.)

NEW YORK.—Railroads—Injuries to Person on Track—Licenses—Negligence—Duty to Give Signals—Question for Jury.

An employee of a switch and signal company, which had a contract with defendant railway company to install switches and signals, was a mere licensee on defendant's tracks while engaged in work under that contract.

In an action against a railway company for the negligent killing of a person on its track, whether it was defendant's duty to give a signal, at a curve, of the approach of its train, held, in the absence of statute relating thereto, a question for the jury.—(Froelich vs. Interborough R. T. Co., 104 N. Y. Sup., 910.)

NEW YORK.—Carriers—Assault on Passenger—Provocation of Employee.

A carrier is liable for damages from insult to and assault on a passenger by a guard of the carrier on the car, notwithstanding the use of provoking language by the passenger.—(Danziger vs. Interborough Rapid Transit Co., 104 N. Y. Sup., 845.)

NEW YORK.—Street Railroads—Injuries to Persons on Tracks—Contributory Negligence.

Where, in an action against a street railroad for injuries to one struck by a car while crossing the track, it appeared from his evidence that he looked each way for a car before leaving the curb, and then proceeded diagonally across the street without again looking until he was upon the track, he failed to show affirmatively freedom from contributory negligence.—(Ayres

vs. Forty-Second St., M. & St. N. Ave. Ry. Co., 104 N. Y. Sup., 841.)

NEW YORK.—Carriers—Injuries to Passengers—Taking up Passengers—Trial—Instructions—Invading Province of Jury.

Where plaintiff was injured in attempting to board a street car, the company is liable, in the absence of contributory negligence, if its servants in charge of the car knew, or should have known, that the plaintiff intended to take passage and did not afford him a reasonable opportunity to do so safely.

Where plaintiff was injured in attempting to board a street car, it was error to instruct that he was entitled to a verdict if the jury believed his testimony.—(Johnston vs. New York City Ry. Co., 104 N. Y. Sup., 1039.)

NEW YORK.—Street Railroads—Injuries to Travelers—Contributory Negligence.

In an action for injuries to the driver of a truck by collision with a street car approaching the truck from the rear, a clear preponderance of the evidence held to establish that plaintiff was negligent.—(Shatzman vs. New York City Ry. Co., 105 N. Y. Sup., 115.)

NEW YORK.—Evidence—Admissions—Offer of Settlement—Trial—Motions to Strike Out Evidence—Evidence Admissible in Part—Sufficiency of Motion.

In an action for personal injuries, testimony of the plaintiff that he went to defendant's office to see if he were not going to make a settlement, and that defendant offered him \$200, to settle, simply to show that defendant acknowledged plaintiff's claim by offering to settle and pay plaintiff \$200, was inadmissible.

Where the whole answer of a witness was objectionable, and the motion was promptly made to strike it out, and was overruled, and the answer could not in any way or for any purpose be competent testimony, the rule that where an answer, a part of which is objectionable, is given by a witness to a question which did not call for the objectionable part, and no objection is made to the question until it has been answered in part, nor any motion made after the entire answer was received to strike out any part of it, nor request for instruction to disregard it, the objectionable portion of the testimony is not ground for appeal, has no application.—(O'Brien vs. New York City Ry. Co., 105 N. Y. Sup., 238.)

NEW YORK.—Street Railroads—Injury to Travelers—Question for Jury—Rights in Street—Duty to Stop—Negligence—Concurrent Negligence—Imputed Negligence.

In an action for injuries to plaintiff while riding on a truck by a rear-end collision between the truck and one of defendant's street cars, evidence held to require submission of the question of defendant's negligence to the jury.

A street railroad company, though entitled to a paramount right of way over the portion of the street on which its rails are laid, has not such exclusive right to its tracks as to permit it to negligently run into a truck, without giving the driver thereof a reasonable opportunity, in the exercise of reasonable care, to get off the track.

The motorman of a street car was under no obligation to stop the car in order to prevent a collision with a truck, unless he saw, or should have seen in the performance of his duty to take notice of existing conditions, that there was danger of collision.

Where plaintiff, while riding on a truck with his employer, was injured in a collision between the truck and defendant's street car, defendant, having been negligent, could not escape liability for plaintiff's injuries, though plaintiff's employer, who was driving the truck, was concurrently negligent.

Where the servant was riding on a truck driven by his master at the time of the servant's injury in a collision between the truck and one of defendant's street cars, the negligence of the master, if any, was not imputable to the servant.—(Doctoroff vs. Metropolitan St. Ry. Co., 105 N. Y. Sup., 229.)

NEW YORK.—Carriers—Injuries to Passengers—Negligence.

Where a street car slowed down as it approached plaintiff in response to a signal, and plaintiff attempted to step on the platform, and was thrown down and injured by a sudden acceleration of speed, plaintiff was not entitled to recover, in the absence of proof that the motorman or conductor had actual notice that plaintiff was in the act of boarding the car, or that the place where he attempted to board it was a usual stopping place.—(Gomez vs. New York City Ry. Co., 105 N. Y. Sup., 108.)

NEW YORK.—Carriers—Injury to Passenger—Sufficiency of Evidence.

Where, in an action for injuries received while attempting to board a street car, the defendant offered no evidence, and plaintiff's testimony, which was corroborated by one apparently disinterested witness, clearly supported the allegations of the complaint that while plaintiff was attempting to board the car after it had come to a standstill, and before he had a reasonable time to do so, the car was started, and he was thrown to the ground and injured, a verdict for the defendant was unwarranted.—(Klein vs. Interurban St. Ry. Co., 105 N. Y. Sup., 96.)

NEW YORK.—Street Railroads—Injuries to Persons on Track—Evidence—Sufficiency—Negligence—Contributory Negligence—Care Required of Children.

In an action against a street railroad for the death of a child, evidence held insufficient to show that the driver of the car was negligent in failing to keep a proper lookout.

A child of tender years is not required to exercise the same degree of care and prudence in the presence of danger required of an adult under like circumstances, but is required to exercise such care and prudence as is commensurate with one of his age and intelligence.—(Kostenbaum vs. New York City Ry. Co., 105 N. Y. Sup., 66.)

NEW YORK.—Trial—Taking Case from Jury—Conflicting Evidence—Street Railroads—Operation—Collision with Vehicles—Actions for Injuries—Instructions.

Where the evidence is conflicting on the material issues of fact, the case is for the jury.

In an action for injuries to the driver of a truck, caused by his truck being struck by defendant's street car, a charge that defendant company was required to do everything and anything to stop and avoid hurting anybody was erroneous, since it placed upon the defendant the duty to exercise extraordinary precaution.—(Heckmuller vs. New York City Ry. Co., 104 N. Y. Sup., 679.)

NEW YORK.—Damages—Personal Injuries—Loss of Wife's Society.

Where, in an action against a railway for loss of the society of plaintiff's wife, resulting from injuries occasioned by defendant's negligence, it appeared that after the accident the wife remained in bed for three weeks and abstained from going out of the house for three or four weeks, and no evidence was given as to any loss of services, as to any expense having been incurred, or as to the condition in life of the couple or the occupation of plaintiff, a judgment for plaintiff for \$229 was excessive.—(Schulz vs. Union Ry. Co., 104 N. Y. Sup., 722.)

NEW YORK.—Carriers—Street Railways—Refusal to Give Transfer.

A street railway is not liable for refusal to give a transfer to one who becomes a passenger solely to lay a foundation to sue for such refusal.—(Johnston vs. New York City Ry. Co., 104 N. Y. Sup., 812.)

NEW YORK.—Carriers—Street Railroads—Passengers—Transfers—Action for Refusal.

In an action under Railroad Law, Laws 1892, p. 2107, c. 565, § 104, against a street railroad company for refusing a transfer, it is no defense that the company provided the conductor with transfers to give to passengers, the conductor's refusal being the company's, and section 39, providing exempting railroad companies from liability for asking or receiving more than lawful fare, where it is done through inadvertence or mistake not amounting to gross negligence, being inapplicable.—(Snee vs. Brooklyn Heights R. Co., 104 N. Y. Sup., 907.)

NEW YORK.—Carriers—Street Railroads—Transfers—Penalties—Variance—Penalties—Action—Previous Defaults.

Where, in an action against a street railway company for penalty for refusal to give a transfer, the complaint alleged that the refusal was by defendant's conductor and occurred December 7, 1905, while the proof showed that plaintiff applied to defendant's transfer agent on the street for a transfer, which was refused, on July 7, 1905, the variance was fatal.

The institution of an action to recover a statutory penalty against a street car company for refusal to give a transfer operates as a waiver of plaintiff's right to penalties for prior defaults.—(Stevenson vs. New York City Ry. Co., 104 N. Y. Sup., 866.)

PENNSYLVANIA.—Pleading—Amendment.

In an action by a passenger against a street railway company for personal injuries sustained while alighting from a car, plain-

tiff may at the trial two years after the accident amend his statement by changing averment that there was no stop of the car at all to an averment that there was an insufficient stop.—(Schmelzer vs. Chester Traction Co., 66 Atl. Rep., 1005.)

PENNSYLVANIA.—Carriers—Assault on Passenger—Negligence.

In an action by a woman, a passenger on a street car, to recover against the railroad company for injuries received from an intoxicated passenger, where the only negligence alleged was allowing the man to enter the car when he appeared intoxicated, it was error to submit the case to the jury where the evidence showed that there was no appearance of intoxication until he was asked to pay his fare.—(Brehony et al. vs. Pottsville Union Traction Co., 66 Atl. Rep., 1006.)

PENNSYLVANIA.—Street Railroads—Collision with Traveler—Contributory Negligence.

In an action against a street railway company to recover for personal injuries by collision with a street car, evidence held to establish such contributory negligence on the part of the driver of the wagon in which plaintiff was riding as to require direction of verdict for defendant.—(Leister vs. Philadelphia Rapid Transit Co., 66 Atl. Rep., 866.)

TEXAS.—Damages—Personal Injury—Instruction.

In a personal injury action, an instruction to assess plaintiff's damages at such sum "as, if paid now, will fairly compensate him for the injury," and then enumerating the elements of damages to be considered in estimating them, was proper, and not objectionable as authorizing double damages.—(Beaumont Traction Co. vs. Edge, 102 S. W. Rep., 746.)

VERMONT.—Carriers—Street Railways—Collision—Injury—Liability of Company—Duty of Motorman—Question for Jury.

Though a street car's collision with a wagon resulted from the driver's negligence in crossing the track, the company was liable to a passenger for her injury, if the motorman's negligence in running the car at a very rapid and unusual rate of speed, or too close to a car in front, after the passing of which the driver drove his wagon across the track, prevented him from avoiding the collision.

Where a street car's collision with a wagon caused a passenger's injury, the motorman was not negligent as a matter of law merely because the ringing of the gong, which was not done, would have prevented the obstruction; the inference of negligence not being necessarily contained in that finding.

A motorman had no right, as to passengers, to assume that one driving a wagon along the street in the same direction the car was going would not attempt to cross the track "mid block," but owed her the duty to exercise the most watchful care and the most active diligence for her safety against collision with the wagon.

In an action against a street railway company for injury to a passenger, caused by a collision with a wagon crossing the track, whether the motorman was negligent held, under the evidence, a question for the jury.—(Strong vs. Burlington Traction Co., 66 Atl. Rep., 786.)

VIRGINIA.—Street Railroads—Injuries to Travelers—Negligence—Pleading—Public Highway—Establishment—Dedication—Acceptance—Country Highways.

A complaint against a street railroad company for injuries to a traveler, alleging that defendant so carelessly, etc., managed its cars that by reason of its negligence one of them ran against plaintiff, who was then on the highway, whereupon, etc., was fatally defective for failure to allege the facts from which the negligence arose.

Where plaintiff was injured in a collision with a street car in a highway outside the limits of a city, whether the place where the injury occurred was in fact a public highway must be determined by the law with reference to the establishment of public roads in the country, and not with respect to the dedication and opening of streets in a city.

The acceptance of the dedication of a city street may be shown by the acts of the municipality's officers.

The acceptance of a highway in the country, so as to impose on the public the burden of keeping it in order, must appear by matter of record, either by a formal acceptance or a showing that the county court has laid off a road before used into precincts, or appointed an overseer or surveyor for it, thereby claiming the road for the benefit of the public.—(Lynchburg Traction & Light Co. vs. Guill, 57 S. E. Rep., 644.)

FINANCIAL INTELLIGENCE

WALL STREET, Dec. 24, 1907.

The Money Market

Although the general monetary conditions improved materially during the past week rates for money in the local market have ruled somewhat higher than those heretofore quoted. Money on call after loaning in quantity at from 6 to 12 per cent early in the week, rose sharply to 25 per cent at the close, while small amounts of thirty-day money were placed at 15 per cent, and of sixty-day and ninety-day funds at 12 per cent. The advance in the local money rates was due almost entirely to the calling and shifting of loans incidental to the Jan. 1 interest and dividend disbursements, which are estimated at about \$190,000,000 or considerably in excess of the total disbursements on Jan. 1 of this year, despite the fact that dividends on many industrial corporations have been reduced and in some instances entirely passed. The increased disbursements on Jan. 1 next are the result of extra payments by some of the large railway systems, notably the Lake Shore and Michigan Central lines and the Pennsylvania Company, a subsidiary of the Pennsylvania Railroad. Otherwise the week's developments have been more favorable than for several weeks past. The demand for money at the interior for crop moving purposes has practically ceased, and were it not for the disposition on the part of the interior banks to keep large supplies of cash on hand, money would now be flowing in this direction. However, the demand from the West and South was considerably smaller during the past week and this was largely responsible for the heavy gains in cash by the New York City banks and a further large decrease in the deficit of the Clearing House institutions. Business in currency has fallen off to small proportions and the only demand now appears to be for pay roll purposes which has served to maintain the premium around $\frac{3}{4}$ of 1 per cent. Foreign exchange ruled decidedly firm throughout the week, owing to the heavy purchases of bills in connection with the Jan. 1 settlements abroad, but notwithstanding the high rates of exchange, the premium on currency has enabled our bankers to secure additional amounts of gold in Europe and it is expected that further engagements will be announced from time to time. It is not believed that local conditions will become decidedly easier until after the turn of the year. It is pointed out that numerous time loans will mature between now and Jan. 1, and at the same time it is said that large amounts of mercantile paper will fall due, which will have to be provided for. After the middle of January, however, the belief prevails in banking circles that the money market will become normal. The moneys disbursed on Jan. 1 for interest and dividends should by the end of the first week in the new year find their way back to the banks and the influx of currency from the interior should be well under way by that time, particularly as the contraction in general trade will call for considerably less money than was required in previous years.

The bank statement published last Saturday was well received. Loans decreased \$9,581,100 and deposits decreased \$7,371,900 cash increased \$6,507,200, and as the reserve required was \$1,842,975 less than in the preceding week, the deficit was reduced \$8,350,175. The total deficit now stands at \$31,751,000, as compared with a surplus of \$3,280,900 in the corresponding week of last year and a surplus of \$4,159,400 in the corresponding week of 1905. Circulation increased \$1,661,700.

The Stock Market

With the close approach of the end of the year, the general stock market has been, during the past week, even duller and more professional than in the immediately preceding week, and were it not for the operations of a few speculative cliques, interest in the course of values would have been at an exceedingly low ebb. As it was the fluctuations in prices were mostly of the same description as the dealings, but the general tone of the market was quite firm considering the surrounding circumstances. The preparations making for the January interest and dividend payments, which are estimated at close to \$190,000,000,

thereby establishing a new high record in this regard, naturally created more or less uneasiness in the local money market and for both call and time loans the rates continued to rule fully up to, if not above, those lately current. The issuance of a call for a statement of the condition of our state banks, following a similar call to the National banks, led to a good deal of "window dressing," and while some encouragement was felt on account of the fact that the Clearing House banks are slowly but surely bettering their position, it was likewise felt that the present is hardly the time to inaugurate a bullish campaign in the stock market. As a matter of fact, if any such movement were begun just now the banks would be the very first to discourage in every way possible such an attempt. In the meantime, the financial situation is steadily improving, though further contraction in general business is noted, as reflected in a big drop in bank clearings, and even a further curtailment is to be feared. Our banks continue to lose money to the interior and banks out of town are still pursuing their hoarding tactics. It is this that is mainly responsible for the further contraction in business, and it is earnestly hoped that the financial institutions may soon be brought to see the error of their ways. The demand for funds for crop moving purposes has practically ceased and under ordinary circumstances money should be flowing toward New York. However, the reverse of this is the case, and until conditions mend in this respect it is hardly reasonable to look for any sustained upward movement in security values, particularly with the reserves of our banks still many millions under the amount required by law.

The declaration of regular dividends by the Reading and New York Central, whereas rumors of reductions in both cases had been freely circulated, had a slightly reassuring influence, as did also increased dividends by some of the Vanderbilt and other railroads, but the continued stoppage and cutting of distributions to stockholders in other instances served to nullify the good effect of these announcements. In reality, the Street was in no humor to take advantage of this or any similar condition of affairs, and for the time being such matters as the favorable state of our foreign trade as indicated by the Government's November figures, and the fact that the anthracite coal roads among others are now earning more than at any time in their history, were to all intents and purposes lost sight of. The demand for bonds kept up and the market for that class of securities was relatively firmer than that for stocks. However, even in this direction there was a disposition to slow down some pending developments in the money market.

Aided no doubt by present and prospective large earnings incident upon the holidays, the local traction shares continued to rule firm, and though speculation in them was not active, the investment buying that has been noticed in them ever since the panic was maintained. The fact that the investigation into the affairs of the Brooklyn Rapid Transit has failed utterly to bring out anything detrimental to that property is proving a very strong factor in creating a better inquiry for that stock.

Philadelphia

There was a material falling off in the dealings in the local traction issues during the past week, but the general tone of the market was decidedly firmer, prices for all of the leading issues showing substantial advances over those prevailing at the close of last week. Philadelphia Rapid Transit, which was under pressure last week, recovered sharply and advanced to 17 $\frac{3}{4}$. Union Traction advanced a point to 47 $\frac{3}{4}$ and Philadelphia Traction sold at 84, unchanged. Consolidated Traction of New Jersey advanced a point to 61, on light trading. Philadelphia Company common sold at 36 and odd lots of the preferred sold at 36. American Railways was unchanged, with transactions at 43 $\frac{3}{4}$.

Baltimore

There was a broader market for traction issues at Baltimore and while prices displayed more or less irregularity, the net changes were for the most part unimportant. United Railway common sold at 10 for small amounts. United Railway 4's sold at 81 $\frac{1}{4}$, the incomes at 45 $\frac{1}{4}$ @ 45 and the funding 5's at

70½ @ 70¾. Transactions in Metropolitan Railway of Washington 5's are reported at 104¾ and in Richmond Traction 5's at 100. Other transactions included Virginia Electric Railway and Development 5's at 95, Baltimore Traction 5's at 106, City & Suburban 5's at 105, and Baltimore City Passenger 5's at 100.

Other Traction Securities

The market for traction issues at Chicago was practically at a standstill, trading including only a few issues, none of which showed any noteworthy price changes. Metropolitan Elevated common sold at 17½, Chicago City Railway 5's at 95 and Northwestern Elevated 4's at 87. The Boston market also was quiet. Boston & Worcester preferred, dropped from 57 to 55, on the exchange of small lots. Boston Elevated was firm at 126. Massachusetts Electric common sold at 9, the preferred at 39, West End common at 81 and West End preferred at 98 @ 98½.

Security Quotations

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

	Dec. 18.	Dec. 25.
American Railways	43¾	43½
Boston Elevated	123½	126
Brooklyn Rapid Transit.....	37½	38
Chicago City	a150	140
Cleveland Electric	37	—
Consolidated Traction of New Jersey.....	59½	60½
Detroit United	34	32
Interborough-Metropolitan	6½	6½
Interborough-Metropolitan (preferred)	17	17½
International Traction (common).....	35	35
International Traction (preferred) 4s.....	59¾	59
Manhattan Railway	114	116
Massachusetts Elec. Cos. (common).....	9	9
Massachusetts Elec. Cos. (preferred).....	37	38
Metropolitan Elevated, Chicago (common).....	a17	a17
Metropolitan Elevated, Chicago (preferred).....	44	46
Metropolitan Street	21	20
North American	41¾	42½
North Jersey Street Railway.....	25	25
Philadelphia Company (common).....	35½	35¾
Philadelphia Rapid Transit.....	17¾	17
Philadelphia Traction	83	82½
Public Service Corporation certificates.....	54	54
Public Service Corporation 5 per cent notes.....	85	85
South Side Elevated (Chicago).....	62	64
Third Avenue	22	23
Twin City, Minneapolis (common).....	83	83
Union Traction (Philadelphia).....	46¾	47¾

a Asked.

Metals

According to the *Iron Age*, new business in finished iron and steel has been light, and bookings are at the rate of about 30 per cent. of their capacity. Shipments, however, are fully double that amount, taking the industry as a whole. It is estimated that the shipments of fabricated material by the American Bridge Company during 1907 will total 650,000 tons, as compared with 577,000 tons in 1906. There is a little more inquiry for plates.

Copper has moved upward a little, apparently due to speculative operations. Consumers have bought little, but are sounding the market for January metal. Lake is quoted at 13¾ to 13½ cents, and electrolytic at 13¾ and 13¾ cents.

PAY FARE AS YOU ENTER IN PITTSBURG

The Pittsburg Railways Company started, on Dec. 24, to enforce the new rule of collecting fares from each passenger as he enters the car. The company will try the experiment on the ordinary cars. Each passenger will enter the car by the rear platform, and is expected to have his fare ready when he boards the car. As he passes in he will hand the money to the conductor. The object of enforcing this new rule is to enable the conductor to remain on the rear platform at all times. Because of the many hills there, accidents happen frequently, and usually the conductor is in the car collecting fares at the time.

ANNUAL MEETING OF THE CENTRAL ELECTRIC RAILWAY ASSOCIATION

The next meeting of the Central Electric Railway Association will be held in Dayton, Ohio, on Thursday, Jan. 23. This will be the annual meeting of the association and the customary banquet will be held.

EARNINGS IN ST. LOUIS

The United Railways of St. Louis reports for November and eleven months ended Nov. 30. Compared as follows:

	November.	1907.	1906.
Gross receipts	\$871,075	\$846,191	Inc.
Operating expenses	579,509	511,088	Inc.
Net earnings	\$291,566	\$335,103	Dec.
Fixed charges	231,314	231,918	Dec.
Surplus	\$60,252	\$103,185	Dec.
Eleven months—			
Gross receipts	9,958,733	\$9,412,762	Inc.
Operating expenses	6,485,975	5,855,676	Inc.
Net earnings	\$3,472,758	\$3,557,086	Dec.
Fixed charges	2,546,527	2,550,049	Dec.
Surplus	\$926,231	\$1,007,037	Dec.

PENNSYLVANIA COMPANIES ORGANIZE AN ASSOCIATION

The Pennsylvania Street Railway Association was organized Dec. 21, at the Bellevue-Stratford, Philadelphia, with nearly one hundred members. The charter was taken out several years ago, when a similar organization existed. Notice has been given, however, of many changes in the by-laws to cover the objects of the new association. Headquarters will be established in Philadelphia. The officers are: President, F. B. Muster, Central Pennsylvania Traction Company, Harrisburg; first vice-president, R. P. Stevens, president Lehigh Valley Transit Company; second vice-president, Francis J. Torrance, Washington & Cannonsburg Railway Company; secretary, Charles H. Smith, Lebanon Valley Street Railway Company; treasurer, W. H. Lanius, York County Traction Company. The executive committee consists of Mr. Musser, M. Smith, Charles O. Kruger, of this city; E. H. Davis, Williamsport, and John A. Rigg, Reading.

AN IMPORTANT DECISION IN OHIO

The Ohio State Railroad Commission has decided that, where the State grants a charter to one electric railway company to parallel another, the latter has a right to abandon that portion of its tracks which may be damaged through competition. The commission also justified the sale of such portion of the track to the competing company, the same ground being taken, that the State has through chartering the other company made damage by competition possible. The case is that of Edward J. Bickerstaff against the Steubenville, Mingo & Ohio Valley Traction Company and the Steubenville & Mingo Traction Company. The complaint was that the companies abandoned a portion of their line over a high summit known as Altamount, between Steubenville and Mingo, and Mr. Bickerstaff asked that the companies be forced to perform their duties as common carriers and afford service to the residents of that place. It was shown that certain persons had purchased lots in Altamount through the inducement that electric railway service would be furnished them. The commission says that, if a private contract was made to that effect, the remedy lies in the courts of law and not in the commission.

After the line had been built the County Commissioners relocated the public highway along the river and a new electric railway track was built between Steubenville and Mingo at a heavy outlay of money. Under these conditions, the commission holds that the change was warranted. The work was done by the Steubenville & Wheeling Traction Company, which had purchased the line from the original company, the transaction having been made in good faith. The chief reason for upholding the company, as pointed out by the commission, is the fact that the Altamount line was too dangerous to operate on account of the character of the territory over which it was built, and that the change was justified, since the public is provided with service by the low-grade division. The significant points mentioned above were brought out in the course of the decision, however, although not meant to be the principal reasons.

TRANSIT MATTERS IN NEW YORK

Details of the defects in cars in use by the New York City Railway Company were brought out Saturday, when the report of A. W. McLimont, electrical engineer for the Public Service Commission, on his recent examination of the rolling stock was made public. This report constituted the sole argument of the commission for its order made ten days ago that the cars be put into better repair. In explanation of the case to the commission the receivers said: The most frequent causes of breakdown are those peculiarly incident to the operation of cars by the conduit electric system and differ from the troubles incident to the operation of surface cars by the overhead trolley system. A large percentage of breakdowns on the road is due to failure of the contact plow, notwithstanding the fact that the expert engineers employed by the company have been constantly working on the problem of finding some corrective ever since the conduit system was first introduced. The severe winter of 1906-'07, therefore, greatly increased the demand for thorough overhauling and extensive repairs. In April, 1907, the 146th Street car barn was destroyed by fire. This not only left the company without adequate storage facilities but also destroyed the main overhauling and repair shops, as well as the electrical shops which were there located. Two subsequent fires, destroying two other car barns, still further crippled the resources of the system. Meanwhile the work of repair and maintenance has been vigorously pushed, although under great disadvantages. The good results of such policy are shown by the records: The number of cars that were disabled on the road for the week ended Dec. 9, 1907, was less than half the number disabled under similar conditions during the weeks just prior to the receivership.

The hearing before Judge Lacombe on the petition of the receivers of the New York City Railway Company and the Metropolitan Street Railway Company for instructions regarding the Third Avenue Railroad was held Dec. 19. Judge Lacombe heard representatives for the receivers for the Metropolitan Street Railway bondholders' committee, for the Metropolitan Street Railway stockholders, for the unsecured holders of the Metropolitan Street Railway Company and the New York City Railway Company, and for the bondholders' committee and the stockholders' committee of the Third Avenue Railroad. The Public Service Commission was invited to send a representative to the hearing, but none appeared. It was the opinion of most of those who appeared before Judge Lacombe that further time should be given in which to consider the matter, and accordingly Judge Lacombe stated that further opportunity would be given to those interested to state their views. He will accept briefs and papers regarding the matter until next Monday. During the course of the hearing the suggestion was made that the court appoint referees to consider the entire matter and to arrive at some conclusion. John M. Bowers, representing the holders of the second mortgage bonds of the Third Avenue, suggested that no action be taken until another trustee for the bonds had been named to take the place of the Morton Trust Company. Mr. Bowers announced that nearly all of the bonds had been deposited under a form of agreement, and that a new trustee will be named within a few days. Henry Wollman, representing some of the minority holders of Metropolitan stock, stated his belief that separate receivers for the Metropolitan Street Railway should be appointed in order that they might look into the Third Avenue situation carefully and act to protect the Metropolitan's interest. Edward M. Shepard, counsel for the Third Avenue stockholders, will submit in writing his opinion of the receivers' petition.

The Public Service Commission has issued an order directing the Interborough Rapid Transit Company to show cause why all of its cars, on both the elevated and subway lines, should not be equipped with emergency tools such as are carried on steam railroads. Mr. Willcox said that in case of an accident, where cars might be jammed together and the doors of necessity closed, such tools might be valuable in enabling passengers to escape, particularly if fire should break out.

So successful has been the introduction of special policemen in the subway that their number has been increased from twenty-five to forty-two, and the service over the underground lines has been increased nearly 10 per cent, with a prospect of a further increase within a short time. The policemen were engaged by President Theodore P. Shonts on the recommendation of the Public Service Commission's expert, Bion J.

Arnold. At the Grand Central station there is a dispatcher for uptown trains and another for downtown trains. These dispatchers, during rush hours, are stationed on small inclosed platforms, which are elevated above the passenger platforms so as to give an unobstructed view of the entire station, and which have been specially built since the policemen went into service. Each of the dispatchers is provided with a stop watch on which he takes the length of time that each train remains in the station. The dispatcher has instructions to limit the time a train is in the station to forty-five seconds if possible. When he sounds the gong the special officers close the doors and the train proceeds immediately.

It will be nearly three months before the first of the McAdoo tunnels from Manhattan to New Jersey will be in operation. The upper tunnels running from Hudson and Christopher Streets to Hoboken were to be opened to the public early in January, but W. G. McAdoo, president of the Hudson & Manhattan Railroad Company, which owns the tunnels, wrote to the Public Service Commission last week asking for an extension of time. On Monday, of this week, the commission extended the time to March 7. By the terms of its first franchise, which covered the tunnel under the North River and up to Christopher and Greenwich Streets, the company was to begin operation of that section on or before Jan. 7. For the portion north of that, up Sixth Avenue to Thirty-Third Street, and across Ninth Street to Fourth Avenue, another franchise was granted, and for these sections the company has until Jan. 15, 1910, to begin operations. When the line is opened in March the most northerly stopping place will be Sixteenth Street, and it will be a considerable time before the line is in operation all the way up to Thirty-Third Street, where a large terminal is to be built. The delay of the uptown tunnels has nothing to do with the lower Manhattan tunnels, which extend from the neighborhood of Cortlandt Street to Jersey City, and which are being built on a franchise granted much later than that affecting the uptown tubes.

Attorney General Jackson obtained an order Dec. 24 from the Supreme Court which appoints John Frankenhimer referee to decide whether the federal receivers shall continue in charge of the New York City Railway or the state receivers assume control.

ORGANIZATION OF THE N. E. L. A. EXHIBITION

At the Washington convention of the National Electric Light Association, last June, the Class "D" members (manufacturers) of the association made a most attractive exhibition of electrical apparatus and appliances. During the convention these exhibitors got together and offered to relieve the association of the troubles and responsibilities connected with the organization and maintenance of such exhibits at the annual conventions. The executive committee of the association approved a plan whereby the Class "D" members were to recommend annually an "exhibition committee" of Class "D" or "E" members. This committee, upon recognition by the president, would elect its own chairman, and organize to conduct the work pertaining to manufacturers' exhibits at the convention.

A nominating committee was formally appointed, consisting of Geo. F. Porter (chairman), of the Atlantic Insulated Wire Company, 120 Liberty Street, New York; T. G. Whaling, of the Westinghouse Lamp Company, and Alex. Henderson, of the American Circular Loom Company.

The ticket presented by this committee to the Class "D" members has been approved by a mail ballot of Class "D" members and accepted by Dudley Farrand, president of the N. E. L. A. This committee, known as the "exhibition committee," is as follows: F. H. Gale, General Electric Company; J. C. McQuiston, Westinghouse Companies; H. P. Heger, Allis-Chalmers Company; Rodman Gilder, Crocker-Wheeler Company; H. M. Post, Western Electric Company; C. P. Frey, Weston Electrical Instrument Company; Benj. Wall, Metropolitan Engineering Company; James I. Ayer, The Simplex Electric Company, and S. E. Doane, National Electric Lamp Association. On Dec. 6, the committee met in the association rooms in New York, and elected F. H. Gale, chairman.

A committee on by-laws and rules for governing the committee was appointed, and preliminary plans regarding the convention next June were discussed. The committee is, of course, subject to the executive committee of the association and will co-operate fully with the president and other officers in making arrangements for the convention.

THE CLEVELAND SITUATION

Negotiations between F. H. Goff, representing the Cleveland Electric Railway Company, and Mayor Johnson, for the city, have progressed to some extent during the past week, public meetings being held regularly every day. Under the influence of Mr. Goff's offer to treat every point from the standpoint of actual value, the Mayor has yielded on several points to which he had formerly seemed rooted. On Saturday Mr. Goff went to him with a proposition that the consent fight on Quincy Street and Central Avenue be abandoned for a time. In other words, he proposed a truce for a limited time, with privilege to the Forest City Railway Company to operate cars over certain West Side lines from which the company has been barred for a time through legal proceedings, although the City Council had provided for this contingency. Further, Mr. Goff said he would arrange with the courts to continue the injunction suits now pending until the expiration of the time provided by the truce. Although Mayor Johnson has scouted the idea of a truce at the first meeting, he gave up to Mr. Goff's proposition, and nothing further will be done until negotiations progress far enough to have some idea whether an agreement can be reached or not.

Messrs. Andrews and DuPont have agreed upon valuation of \$1,007,000 for the overhead construction, while the old estimate was \$1,251,425. The return current was placed at \$95,409, the former valuation being \$114,892. Power house valuations were placed at \$2,216,990. Mr. DuPont's valuation a year or more ago was \$2,399,273. Real estate was placed at \$1,134,473, an increase over the former valuation, which was \$1,084,204. Buildings were valued at \$842,987, which shows quite a substantial reduction from the old figures, \$650,500. Storage batteries were returned at \$289,862, Mr. DuPont's figures a year ago being \$348,392. The total of these valuations is \$5,586,721, in comparison with the former valuation of \$6,048,687. The decreased value in the overhead system and the storage batteries is the result of the fall in the prices of copper and lead. Mr. Andrews was willing to yield on these points at the present time, but a delay might change the valuations the other way, if the markets should advance in the meantime. The power house valuations were reduced because of the lower price of apparatus and the depreciation of a year's operation.

Engineer C. H. Clark and City Engineer Hoffman failed to agree or come anywhere near an agreement on the valuation of the tracks. Mr. Goff said he was satisfied that Mr. Clark was going on experience, while Mr. Hoffman was fixing a value from a theoretical standpoint, not having had the experience necessary for such work, but that he was willing that these two gentlemen be freed from further consideration of the subject and two other men appointed. Owing to objections from the Mayor, two or three men suggested by Mr. Goff were rejected, and finally Engineer Ross, of the Toledo Railways & Light Company, and Harry Bunning, of the Forest City Railway Company, were chosen to take up the work. Mr. Clark had his own ideas as to what track valuations should be, and he would not be swayed by Mayor Johnson or any one else.

CHANGE IN THE CHICAGO OFFICE

Cale Gough, who has been associate editor of the STREET RAILWAY JOURNAL in Chicago for the past three years, and who has been connected with the Chicago office of this paper for a somewhat longer time, has resigned to engage in other business not connected with newspaper work. He is being succeeded by Rodney Hitt, formerly associate editor of the *Railroad Gazette*, of New York. Mr. Hitt was born in 1882, in Indianapolis, Ind., and was graduated from Purdue University in the class of 1901, as a mechanical engineer. He was connected with the National Malleable Castings Company, of Cleveland, for about a year subsequent to leaving college, but then accepted the position with the *Railroad Gazette*, which he has just resigned to become connected with this paper. Mr. Hitt has also been editor of the 1903 and 1906 editions of "The Car Builders' Dictionary," issued by the *Railroad Gazette*. He also edited the 1904 edition of the "Roadmaster's Assistant," and is the editor of the "Signal Dictionary," now in press, by the same publishers. Mr. Hitt is an associate member of the Master Car Builders' Association, a junior member of the American Society of Civil Engineers and a member of the New York Railroad Club. His headquarters will be in the Western office of this paper, Room 509, Old Colony Building, Chicago.

NOTICE OF THE JANUARY MEETING A. S. M. E.

The next monthly meeting of the American Society of Mechanical Engineers will be held Tuesday evening, Jan. 14, in assembly room No. 1, of the Engineering Societies Building, at 29 West Thirty-ninth Street, New York. The subject will be "Car Lighting," the presentation being made by R. N. Dixon, president of the Safety Car Heating & Lighting Company, and will treat of the general subject of light of trains, showing relative economies in the several systems, electric and gas. There will be in operation exhibits of different methods, such as the Pintsch mantel, the vapor mantel system, a new acetylene system, and several varieties of axle lighting by electricity, with their regulating and governing mechanism.

IMPORTANT HYDRO-ELECTRIC AND RAILWAY PLANS IN VIRGINIA

On Dec. 13, an interesting engineering program for the development of Eastern Virginia was explained when Judge Alvin T. Embrey appeared before the Corporation Commission of the State and applied for a charter for the Fredericksburg & Southern Railway Company to build a railroad (to use any motive power) from a point at or near Fredericksburg, Spotsylvania County, to Doswell, Hanover County, with the privilege of extending the line 50 miles in any direction. This line will practically parallel the Richmond, Fredericksburg & Potomac Railroad from Fredericksburg to Doswell. When the latter was built, the state legislature in order to encourage subscriptions, enacted a prohibition against paralleling this line for 35 years, and at the expiration of this time the act was renewed. The State took about one-third of the capital stock of this road, and owns it at present. On Dec. 16, the Corporation Commission listened to arguments concerning the granting of the charter, and of course the Richmond, Fredericksburg & Potomac Railroad, as well as the State, opposed it. The commission reserved decision. Should it refuse to grant this charter, the case will immediately be taken to the State Supreme Court. Should the Supreme Court, in January, refuse the grant, the company will go before the next Legislature to have the law against paralleling repealed.

All the water power in the Rappahannock River and most of the power in the James and Appamattox Rivers, together with all lighting, power and street railways, both urban and inter-urban, in Richmond, Manchester and Petersburg, are controlled by Frank J. Gould and Miss Helen Gould, of New York City. Mr. Gould also owns the Richmond & Chesapeake Bay Company, which owns the Fredericksburg Power Company. The latter is to own the Fredericksburg & Southern.

The Fredericksburg Power Company has purchased more than 4000 acres of land on the Rappahannock River, and is preparing to develop more than 30,000 horse-power, which is more than the power furnished by both the James and the Appamattox Rivers. This power will be an inducement to new industries to locate at or near Fredericksburg and it will be used to operate the street railway in Fredericksburg and furnish power to the Fredericksburg & Southern road. Preparations are being made for complete hydraulic and electrical development on the Rappahannock River at and above Fredericksburg, and an application is soon to be made to the City Council of Fredericksburg for a franchise to sell light, heating and power. The Fredericksburg & Southern Railroad will be built along the same lines as the Richmond & Chesapeake Bay line. A line from Fredericksburg to Doswell, with the Richmond & Chesapeake Bay Railway extending its line from Ashland to Doswell, will give Mr. Gould control of an electric railway from Fredericksburg to Petersburg, a distance of 85 miles, and the street railways in Fredericksburg, Richmond, Manchester and Petersburg.

The officers and incorporators of the Fredericksburg & Southern are: Wm. C. Whitner, president; E. J. Smith, vice-president; Alvin T. Embrey, secretary and treasurer; and these gentlemen, together with A. P. Rowe, A. W. Embrey, C. W. Jones and J. T. Lowery, of Fredericksburg, Va., form the incorporators and directors. The officers of the Fredericksburg Power Company are: Wm. C. Whitner, president; Alvin T. Embrey, secretary and treasurer; and they, together with A. W. Embrey, A. P. Rowe, of Fredericksburg, Va., and W. L. Roddey, of Rock Hill, S. C., are the directors. Mr. Whitner is chief engineer of hydraulics for Mr. Gould in all of his enterprises in Virginia.

AFFAIRS IN CHICAGO

The South Chicago City Railway Company and the Calumet Electric Street Railway Company are to consolidate. New branches are to be built. The Calumet Electric has agreed to build extensions in 103d and 115th Streets and to Riverdale. Other additions may be made and general improvement of the service on both roads will take place when consolidation has been achieved. The Calumet Electric is still in the hands of a receiver. The Calumet Company now operates 75 miles of track, running from Sixty-Third Street—South Park and Stony Island Avenues—to the Indiana State line at Roby. The Calumet Electric has issued bonds in the amount of \$3,000,000, which fall due Nov. 1, 1909. There is \$500,000 in stock out and \$675,000 of receivers' certificates. The line is mostly double track, and besides connecting with the City Railway and South Side "L" at Sixty-Third Street, also reaches the Illinois Central suburban station at that point. It traverses South Chicago, Auburn Park, Manhattan Beach, Burnside, Pullman and West Pullman. The South Chicago City Railway Company operates 37 miles of track within the Chicago city limits. Its northern terminus is Madison Avenue and Sixty-Third Street. It is one of D. Mark Cummings' properties, the same interest controlling the Hammond, Whiting & East Chicago Railway. The South Chicago City runs from Jackson Park to the Indiana State line, where it connects with its Hoosier extension. It has \$1,844,800 in stock outstanding and a bonded debt of \$1,804,000. The officers of the South Chicago City are: D. F. Cameron, president; D. M. Cummings, vice-president; O. S. Gaither, secretary-treasurer. The officers of the Calumet Electric are: Ira M. Cobe, president and receiver; J. W. McKinnon, vice-president; F. H. Murray, secretary-treasurer.

The terms of the compromise whereby the Guaranty Trust Company, of New York, has agreed to withdraw its opposition to the reorganization plans of the Union Traction Company were made public Dec. 18. Under the original plans, the claim of the Guaranty Company for \$1,185,000 was to have been met with an equal amount of bonds of series C. This the trust company objected to, and the present arrangement is as follows: It is to receive \$700,000 in securities of series A, or first mortgage bonds, and for the remaining \$485,000 get a short term note secured by series C securities. Under the plan of reorganization the committee has the right to issue additional series A bonds up to \$1,500,000, and this authority will be used to meet the compromise with the Guaranty Company. At the same time, the Union Traction stockholders have withdrawn the notice they recently served on the banks in which the stocks of all the roads making up the system were deposited, in accordance with the terms of the reorganization plan, demanding the right to withdraw from the agreement. This notice was regarded at the time it was served as intended to help out the Guaranty Company's demand for better securities, inasmuch as Hollins & Company, of New York, control the Union traction stock, and that firm and the Guaranty Trust Company are closely identified financially. At any rate, the notice of its withdrawal came at the same time the demands of the trust company were complied with.

The time for making deposits under the Chicago Railway Company's modified plan of Oct. 25 has expired and no further extension has been granted. Deposits can now be made only upon special leave from the committee on application showing good cause and upon such conditions as may be prescribed. The total of the bonds which have assented to the modified plan is stated to be \$22,631,000, which is substantially 89 per cent of the outstanding issue. The pending foreclosure proceedings are ripe for decrees which are expected to be shortly executed.

PROGRAM OF THE INTERNATIONAL STREET & INTER-URBAN RAILWAY ASSOCIATION

The next biennial meeting of the International Street & Interurban Railway Association is to be held in Munich during September, 1908. The list of papers to be presented at the meeting has just been published by the secretary from the headquarters of the association in Brussels, and is as follows:

1. Rail Corrugation.

This report is to be presented by an international commission consisting of Messrs. Boulvin, general manager of the Cie. Générale de Tramways et d'Electricité, of Brussels; Busse, chief engineer of the Grosse Berliner Strassenbahn; Culin, chief

engineer of the Strassen-Eisenbahn Gesellschaft, of Hamburg; d'Hoop, manager of the technical department of Les Tramways Bruxellois; Dubs, manager of the Marseilles Tramways; Fischer, general manager of the Phoenix Steel Works at Ruhrort; Mariage, chief engineer and manager of the engineering department of the General Omnibus Company, at Paris; t'Serstevens, secretary of the association.

2. Generation of Electric Power; the comparative advantages of reciprocating steam engines, steam turbines, gas engines, Diesel engines, etc., in power stations, with comparative figures on the costs of installation.

This report is to be presented by M. Rizzo, engineer and assistant engineer of the Société Générale de Chemins de fer Economiques, of Brussels.

3. Advantages and Disadvantages of the Different Types of Cars in Tramway Operation (motor cars and trail cars, double-truck cars, cars with radial axles, convertible cars, semi-convertible cars, combination cars, cars with central entrance, etc.).

This report is to be presented by M. Spangler, engineer and manager of the Municipal Railways of Vienna.

4. Progress report on brakes, with special reference to the expense of maintenance.

This report is to be presented by Messrs. Petit, engineer and division superintendent of the Société Nationale des Chemins de fer Vicinaux, of Brussels; Scholtes, engineer and manager of the Nuremberg Tramways, and Schorling, chief engineer of the Hanover Tramways.

5. Car-wattmeters and their value in economy of current.

This report is to be presented by Messrs. Battes, manager of the Frankfort Municipal Tramways, and Otto, chief engineer of the Grosse Berliner Strassenbahn.

6. The use of electric traction on steam railways for suburban service.

This report is to be presented by M. Reichel, professor of electrical engineering at the Berlin Polytechnic School.

7. Life of the essential parts of rolling-stock equipment.

This report is to be presented by M. Stahl, manager of the Dusseldorf Municipal Tramways.

8. The auto-bus in operation.

This report is to be presented by Messrs. Mauclère, manager of the construction department of the General Omnibus Company, of Paris, and Otto, chief division engineer of the Berlin Tramways.

9. Lubrication of journals and gears.

This report is to be presented by M. Julius, manager of the Haarlem Electric Company, of Holland.

10. Track construction.

This report is to be presented by M. C. de Burlet, general manager of the Société Nationale des Chemins de fer Vicinaux of Brussels.

11. Steam locomotives for suburban railways, especially for narrow-gage lines; results obtained by compounding and superheating; locomotives using fuel other than coal.

This report is to be presented by Messrs. H. von Littrow, traction engineer of the Austrian State Railways, Triest, and H. Heimpel, chief engineer of the Bavarian Suburban Tramways, Munich.

12. Auto-cars on railway lines in general and especially on suburban lines.

This report is to be presented by E. A. Ziffer, president of the Bukovina Railways Company, of Vienna.

13. Economic value of large central stations from the standpoint of developing local railway systems.

This report is to be presented by M. O. Petrie, manager of the Siemens-Schuckert Company, of Nuremberg.

PERSONAL MENTION

MR. F. B. MATTHEWS, of Fremont, Ohio, formerly chief engineer of the Lake Shore Electric Railway, died very suddenly at Michigan City, Dec. 16.

MR. S. B. LUCAS, formerly division master mechanic of the Indiana Union Traction Company with headquarters at Muncie, Ind., has been appointed master mechanic of the South Chicago City Railway and Hammond, Whiting & East Chicago Electric Railway, of South Chicago, Ill.

MR. H. S. POTTER, who has been superintendent of the El Paso Electric Railway for the last three years, has been made general superintendent, having charge of both the railway and lighting departments, and Mr. George G. Morse, of

Jacksonville, Fla., has been appointed superintendent of transportation. The new position was created to relieve Mr. Potter of the detail work of his office.

MR. LLOYD LYONS has been appointed secretary and auditor of the Mobile Light & Railway Company. Mr. Lyons was formerly assistant manager and assistant treasurer of the San Juan Light & Power Company, of San Juan, Porto Rico. Mr. J. E. Z. Watson, who has held the position of secretary of the local company for more than a year past, has returned to St. Louis, where he will engage in business.

MR. F. C. CRANE, passenger and freight agent of the Rochester & Eastern Rapid Railway Company, has been appointed general passenger agent for the Eastern Pennsylvania Railways Company, under the operating management of J. G. White & Company. Mr. Crane's duties will be particularly the improvement of summer resorts on the Eastern Pennsylvania Railway system in Schuylkill County and the building up of excursion business.

PROF. JOHN PRICE JACKSON has just been appointed dean of the school of engineering at the Pennsylvania State College, from which he was graduated in the course of mechanical engineering in 1889. In his early career Professor Jackson was connected with the Edison Illuminating Company, of Philadelphia, and the Sprague and Edison companies, of New York City. He also obtained considerable experience while with the Western Engineering Company, of Lincoln, Neb. He was appointed professor of electrical engineering at the Pennsylvania State College in 1894. At the present date the department of electrical engineering has an enrollment of more than 700 students. Professor Jackson is a member of the American Society of Mechanical Engineers, the American Institute of Electrical Engineers, the American Society for the Advancement of Engineering Education, the Harrisburg Engineers' Club, and other technical organizations. He is a joint author of "Alternating Currents and Alternating Current Machinery" and "Electricity and Magnetism," two standard text-books in electrical engineering, and has written numerous articles on educational and engineering topics which have appeared in *Society Transactions* and other technical publications. Professor Jackson has also acted as consulting engineer for various companies and towns.

THE BROOKLYN RAPID TRANSIT COMPANY announces a number of changes in its personnel, to become effective Jan. 1. Mr. W. S. Menden, chief engineer and general superintendent of the company, and Mr. Arthur N. Dutton, assistant to the general manager, are affected. Mr. Menden after Jan. 1 will assume the title of assistant general manager and chief engineer, and Mr. Dutton will assume the title of superintendent of transportation, the position of general superintendent having been abolished. Mr. Menden is a graduate of Purdue University, and before being connected with the Brooklyn Rapid Transit Company was chief engineer and general superintendent in turn of the Northwestern Elevated Railroad, of Chicago. About three years ago he became connected with the Brooklyn Rapid Transit Company as chief engineer, and about six months ago was appointed general superintendent and chief engineer, succeeding as general superintendent Mr. Dow S. Smith, resigned. Mr. Dutton, who will assume the title of superintendent of transportation, is a native of Milwaukee, and for a number of years was on the Santa Fe Railroad. He became connected with the Brooklyn Rapid Transit Company about four years ago. After considerable experience in the superintendent's office he was appointed to the position of assistant to the vice-president and general manager, Mr. J. F. Calderwood.

JUDGE JOHN W. McNAMARA, who for a number of years was general manager of the Albany Railway Company and later was president of the United Traction Company, of Albany, died at his home in that city on Dec. 20. Judge McNamara was born in 1839 in Watertown, N. Y., but in 1844 his parents moved to Albany, where he lived the rest of his life. He was graduated from the State Normal School in 1858. He then took up the study of law and in December, 1861, was admitted to the bar. He continued to practice law in Albany until 1885. In July, 1869, Mr. McNamara was elected police justice in Albany and served in this capacity until May, 1873. His street railway experience commenced in 1864, when he was elected secretary of the Albany Railway. He retained this office until 1880, when he was elected treasurer of the company. In

August, 1885 he was also chosen superintendent of the company, and at this time he gave up the actual practice of the law and devoted his entire energies to his railway interests. Between 1880 and 1890, in addition to his other duties, he also served as president of the company and between 1890 and 1900 as general manager. Upon the organization of the United Traction Company, on Jan. 1, 1900, Judge McNamara was chosen president of the consolidated company. He was succeeded in this office a few years ago by Mr. David Wilcox, when the Delaware & Hudson Railroad Company acquired its interest in the corporation. Judge McNamara was one of the most prominent members of the "old guard" of electric railway managers in New York State, under whose regime most of the street railway companies in the State introduced electric traction, and his knowledge of the law was of the greatest value to the companies during their early litigation, especially in connection with overhead rights and the telephone interests. He served frequently on the Executive Committee of the Street Railway Association of the State of New York, and was president of that organization in 1888. He was also prominent in civic and philanthropic affairs in Albany, being a trustee of the Catholic University, St. Vincent's Orphan Asylum, the Hospital for Incurables, and St. Patrick's Church.

MR. J. R. ELLICOTT, who has just been elected president of the American Street and Interurban Railway Manufacturers' Association to succeed Mr. James H. McGraw, has long been a prominent figure in steam and electric railway circles and an



J. R. ELLICOTT.

active participant in association work. Mr. Ellicott was born in Batavia, N. Y., in 1858, and in 1873 made his start in railroad work as a fireman on the Michigan Central Railway. In 1877 he entered the claim department of the Chicago & Northwestern Railway, but resigned in 1882 to become traveling auditor of the St. Paul, Minneapolis & Omaha Railway. Later he accepted a similar position with the Chicago & Northwestern Railway and then was general manager of the Ajax Forge Company, of Chicago, for four to five years. This last position he gave up in 1891 to enter the railway supply business in New York, where he started the General Agency Company. In 1900, he sold out his railway supply business to take his present position as Eastern manager of the Westinghouse Air Brake Company. He is also Eastern manager of the Westinghouse Traction Brake Company. Mr. Ellicott has one daughter and two sons. One of the latter is attending college and the other, Mr. C. R. Ellicott, is associated with his father in the air brake business.

The other officers elected at the meeting of the executive committee of the Manufacturers' Association, on Dec. 15, were: Vice-President, Howard F. Martin, general manager of sales, Pennsylvania Steel Company, Philadelphia; treasurer, A. H. Sisson, general manager, St. Louis Car Company, St. Louis; secretary, George Keegan, assistant to general manager, Interborough Rapid Transit Company, New York. The members of the executive committee present were: Messrs. J. H. McGraw, H. F. Martin, F. C. Randall, A. S. Partridge, J. R. Ellicott, Otis Cutler, A. H. Sisson, K. D. Hequembourg and C. C. Peirce. Messrs. Evans and McFarland were represented by proxy. The treasurer's report showed a surplus of \$5,544.11 and 293 members in good standing. A vote of thanks was tendered to the finance committee and to the entertainment committee, whose report was presented by A. L. Whipple, chairman. Messrs. McGraw, Martin and Peirce were appointed as a committee to draft resolutions on account of the death of William Wharton, Jr., who was a member of the executive committee up to October of this year. A motion was passed to secure the consent of the members, by a mail vote, to a change in the by-laws providing for three vice-presidents instead of one as at present. Mr. A. F. Bell and Mr. C. D. White represented the Atlantic City Hotel Men's Association, and extended an invitation to the manufacturers to hold the next annual convention at Atlantic City. Their proposition was received but action deferred.

