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Of this issue of the ELECTRIC RAILWAY JOURNAL 9000 copies are printed.

Increasing the Working Time of the Skilled Mechanic

Everybody knows that in an office of any size the man at the desk seldom leaves it to get the score of odds and ends which he may need in the course of the day's work. A push-button circuit leads to a central annunciator and brings a boy for all such errands. The principle of this is almost childishly plain and would not deserve mention were it not for the fact that it is not commonly applied in the electric railway shop. One often sees high-priced, day-paid mechanics stroll leisurely to the supply room several hun-

dred feet away, stop on the trip for an occasional friendly chat with a fellow-employee, lounge around while their requisition is being filled, and finally return to their regular occupation after having lost perhaps 10 to 15 minutes. As this process repeats itself half a dozen times during the day, the loss in labor value is not trifling. At least one company has eliminated this waste of time by installing call circuits in its shops, just as in an office, so that a mechanic will have no more reason for leaving his bench than a book-keeper his desk. The discipline of the shop is also improved, as the men are given no opportunity to congregate during labor time. The same company also employs apprentices to do all the preliminary work for the motor inspectors, so that the latter's capacity practically is doubled at an extra cost of \$4 or \$5 a week. When a foreman is wanted in this shop even boys are dispensed with through the simple expedient of a gong signal system which will bring the right man to headquarters without the necessity of seeking for him high and low. In the power houses, substations and shops of another railway a gong is wired in circuit with the trolley at a point some distance away. Hence line, track or power men who wish to depart can attend to inside duties to the last minute, besides remaining under shelter. The foregoing instances do not exhaust the possibilities of labor-time economy, but are sufficient to indicate how office and factory methods can be adapted to the rather mixed conditions of a railway shop.

Improving Traffic Conditions at Transfer Stations

Sooner or later the increase of traffic on electric railway systems where transfer stations are used forces consideration of the problem of improving the conditions under which the travel is handled. Platform area has to be increased or portions have to be fenced off to separate opposing streams of travel, or other changes have to be made. Sometimes the design of the structure, so far as its operating features go, has to be fundamentally altered in part, if not in whole. In a recent case of this kind a station built less than ten years ago had become heavily burdened with travel. In the original arrangement the passengers transferred to and from the local and through cars across platforms common to travel in all directions. The through cars made but a single stop in the station, and then returned by a long loop outside the building. All the local connecting cars were brought into the station on stub tracks parallel to the incoming city car line. The arrangement worked well for several years, until the growth of travel and that expected from a new suburban trunk line to the station rendered modifications imperative. Plans were therefore prepared eliminating one set of stub track dead ends and carrying them into a loop at

one end of the building. Separate loading and unloading platforms were designed for all cars on this side of the station, including the through cars from the city section of the system. Certain platforms are to be extended, and 6 per cent ramps or inclines are to be used in place of some of the stairways. It is expected that by these modifications the station will not only have capacity to handle the traffic which has grown up through the increasing use of the facilities set in motion eight years ago, but will also provide for a considerably greater volume of travel than exists at present. Of course, success with transfer stations depends largely upon the regularity with which the outgoing cars leave. Gaps in the headway cause a congestion of passengers on the platforms. For this reason if a division headquarters is located close by the station, a private telephone line between the platforms and the car house will prove invaluable in fitting the schedule to the movement of traffic. This is a plan followed in the station under consideration.

Opportunity to Study Denver Reports

Members and associate members of the American Street & Interurban Railway Association have now received, with one or two exceptions, all the advance copies of the papers and reports which will be issued in advance of the convention to be held in Denver next October. This satisfactory condition is due to the promptness with which authors of papers and the chairmen of the committees which are to present reports have done their work, but credit should also be given to the presidents and secretaries of the associations for their assiduity in securing the manuscripts promptly from those to whom the duty of preparing reports has been assigned. With the papers in hand at this early date, every opportunity is afforded those who expect to go to Denver to become familiar with the contents of the papers and be better able to discuss them on the floor of the convention.

It would be an excellent plan, when reading these advance papers, for each person to make notes of the ideas which occur to him on the margin of the papers, and then to take these notes to the convention to use as headings for discussion. If this plan is followed conscientiously by even a small number of those who will be at the convention, the discussion will be much more valuable and instructive. No author, we are sure, considers himself omniscient, and if any delegate has good reasons for believing that his methods are more desirable than those recommended in any report, it will be of benefit to all concerned to have him say so. Even if one finds nothing to criticize in the paper before him, it will be of almost if not equal value to the members of the committee presenting the report, as well as to the association, to have affirmative testimony as to the desirability of suggestions made by the committees, as it will be corroborative evidence of the correctness of their recommendations.

Another benefit follows the early publication of papers, which should be utilized much more in the future than in the past. This is the submission of written discussion of the topics treated by those who are not able to go to Denver. Such written discussions form a feature of the proceedings of many of the national scientific associations.

In the printed proceedings of the American Institute of American Electrical Engineers, for instance, as much, if not more, space is often devoted to the publication of communications from absent members as to the report of remarks presented from the floor. Of course, the final decision as to the inclusion of these written discussions in the printed reports of the associations or their presentation at the meetings rests with the officers of the associations to whom the communications are addressed. Indeed, it could hardly be otherwise if the size of the proceedings and the duration of the meetings are to be kept within reasonable limits. Precedents in the case of other associations are that communications can be presented in full, in abstract or not at all at either the meetings or in the final reports. But experience has also shown that these written discussions are often of the utmost value. The forum of speakers and auditors is increased to include all members of the association, not simply those in attendance, and the benefit to the industry is enlarged to a corresponding degree. This plan has also the great merit that no one is deprived of the opportunity of obtaining the opinion of the association on a disputed point because he himself is prevented from being at the convention, and it is to be hoped that more will take advantage of this privilege than in former years.

Wisconsin Classification of Accounts and Uniformity

The classification of accounts prescribed by the Railroad Commission of Wisconsin for street and interurban railways, as finally issued, is somewhat different from that which was originally promulgated among the railway companies of that State. Special attention is directed by the commission to the fact that the power accounts prescribed for the railways are identical with those required for the electric utilities. It appears that the commission found it desirable to make the power accounts for street and interurban railways precisely the same as those prescribed for the electric utilities, for the reason that so many of the electric railways are engaged also in providing electric service for light and power. In this way a single set of power accounts will be kept by those companies which furnish both railway and light service, and the total cost apportioned over the two classes of service upon the basis of current utilized. With the exception of the power accounts, which have been treated in the manner indicated, the classification as adopted finally follows closely that prescribed by the Interstate Commerce Commission for electric railways.

With the final promulgation of the Wisconsin system of accounts there are three classifications officially adopted by governmental commissions which represent substantial variations from the old standard classification of the American Street & Interurban Railway Accountants' Association, which was in use for so many years and is still the basis of the accounting system in force on many properties throughout the country. The governmental classifications comprise, in addition to that issued by the Wisconsin commission, the systems adopted by the Public Service Commissions of New York and the Interstate Commerce Commission. The new standard classification of the American Street & Interurban Railway Accountants' Association,

adopted at the 1908 convention in Atlantic City, is, with one exception, identical, as was stated by President Robert N. Wallis in a recent letter addressed to the members, with that promulgated by the Interstate Commerce Commission. This exception is in the treatment of discounts and commissions on securities issued for construction purposes or to raise funds for construction. The Interstate Commerce Commission holds that such discounts and commission are not a proper charge against construction, but the association classification provides that expenditures of this nature should be charged to account No. 41—"interest" in the classification of expenditures for road and equipment.

The important work lying before the Accountants' Association is the gradual production and adoption of complete uniformity in electric railway accounting, so far as it can be attained under existing laws and varying conditions of operation. No matter how far the movement toward uniformity may have advanced prior to the action of commissions in prescribing systems that were substantial departures from the old classification, the immediate effect of the promulgation of the new systems is to check the progress toward uniformity; the ultimate result may be a condition more nearly approaching uniformity than would have been possible without governmental insistence. The Accountants' Association may be a material power in so shaping the experience of the next few years that it will tend toward modifications of the various systems now in force, so that eventually substantial uniformity will be reached, but in the meanwhile several official or association classifications or modifications of them will probably be in general use in various sections of the country.

Boston Railroad Terminals and Electrification

Returning commercial activity in many lines of business raises anew the problems of capacity to handle the anticipated traffic. A few years of trade expansion will find present facilities overwhelmed, unless executive officers of large organizations perfect plans for physical improvements held back by the recent commercial depression. On the great railroad systems of the country the need of enlarged facilities for handling traffic was pressing hard at the beginning of the financial stringency; but as travel fell off the existing equipment became more than adequate to meet the situation, so we have heard less during the past year or two about the immediate necessity for new and vast expenditures to multiply the possible service of the transportation systems. Now the times are rapidly changing toward larger volumes of business, and we are not likely to wait long before hearing the old-time complaints of delayed deliveries, inadequate trackage and crippled motive power.

In this connection the electrification of railroad terminals in the larger cities of the country is sure to be brought to the front by an unmistakable demand that the present steam-hauled service shall give way to what has so clearly been shown to be the best method of moving such traffic in highly congested districts. A significant utterance along this line has recently been made public in Boston by Transit Commissioner Josiah Quincy. Mr. Quincy is *ex-officio* a member of a joint board of sixteen members which is soon to take up the transportation prob-

lems of the Boston district in a broad way, reporting to the next Legislature what lines of development are necessary for the immediate future, and planning a comprehensive scheme for the more distant years to come. In his statement Mr. Quincy presents a broad discussion of the superiority of electric over steam traction, and points out that electricity is now a lawful motive power for all forms of transportation in the State of Massachusetts, and that it is the sole practical motive power for two of the three classes of railroads or railways authorized to carry passengers, more than 16,000 electric motors being engaged in this service. The street railways of the State have more mileage than the steam roads; they carry more than four times as many passengers; run more than three times as many car-miles as the latter run train-miles; have nearly twice as many passenger cars, and about three-quarters as much income as their older brethren. Having achieved such dimensions, electric traction is now preparing to invade the steam railroad itself and to dispute the supremacy of the steam locomotive.

Referring to the declaration of the Massachusetts Railroad Commission that the time is fast approaching when electricity as a motive power must be installed on railroads operating in and about Boston, Mr. Quincy emphasizes the spheres of electric locomotive and multiple unit service in meeting the requirements of through and suburban travel, and then passes to the overcrowded condition of the present Boston terminal stations. The need of increasing the capacity of the necessarily limited number of tracks connecting the stations with the outer lines furnishes a powerful additional incentive for the change. The cutting of the present three-minute headway* between steam trains to two minutes with electric service would increase the terminal station capacity by 50 per cent. Says the commissioner: "As tracks become congested with traffic under steam operation—and we are certainly approaching this condition both at the South and North Stations—this possible 50 per cent increases in train movements at the most crowded hours becomes a more effective reason for electrification. Further expansion of our terminals being difficult, the problem of adequately accommodating present and future passenger traffic is that of making such readjustments as will permit of a greatly increased effective use of existing space."

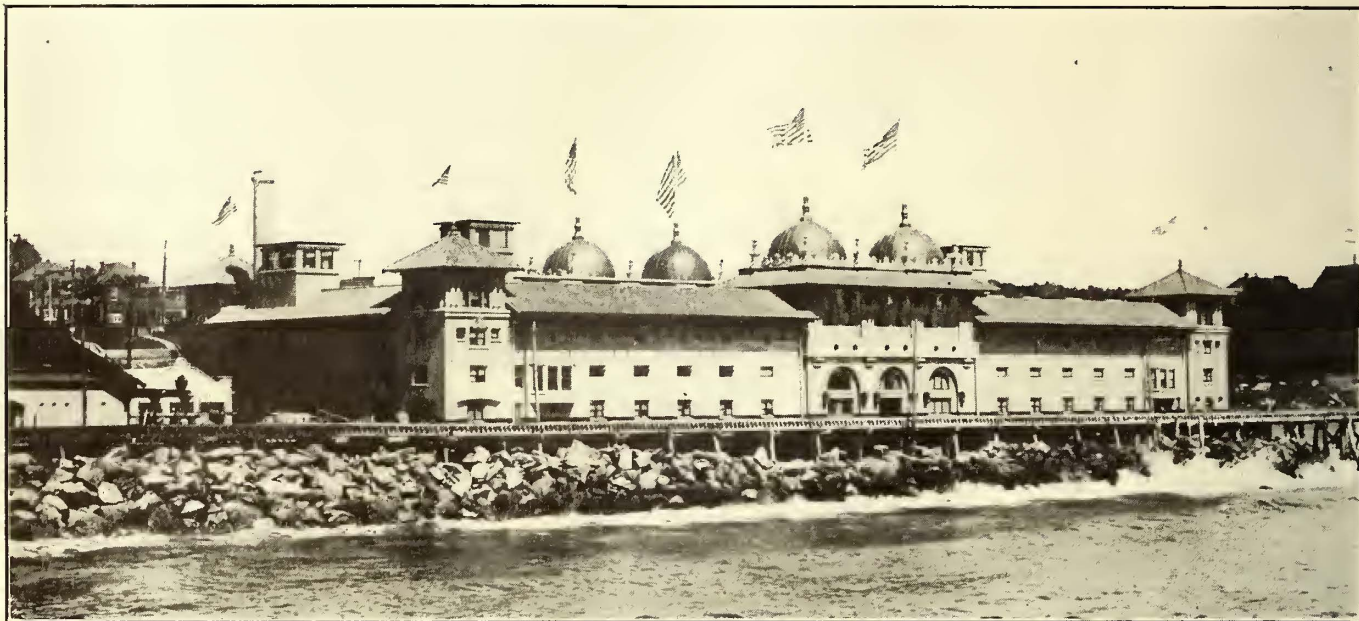
It ought not to be necessary at this day to champion the cause of railroad terminal electrification, so far as its technical advantages are concerned, but the problems of transportation are so far-reaching, the amounts of money involved are so great, and the grip of old and established conceptions and methods is so tight that the advantages of the change in specific instances need to receive the widest possible publicity and the most energetic backing by men of standing in the community. The Boston situation is merely typical of others. The requirements of modern life demand the abolition, in thickly populated sections, of steam trains, with their slow acceleration and pollution of the air by smoke. The change must come in time, and the sooner its necessity is turned into active plans for the extirpation of obsolete methods of transportation the sooner will the localities affected attain the fullest measure of engineering civilization.

TRAFFIC FEATURES OF THE LOS ANGELES & REDONDO RAILWAY

The Los Angeles & Redondo Railway, with headquarters at Redondo, a Pacific Coast seaport, operates three lines between its terminal cities: the line from Redondo to Los Angeles, via Englewood, 19.5 miles; via Moneta, 20 miles, and via Strawberry Park, 21 miles. The Englewood line

trains make this run in 45 minutes. The larger part of the fast trains are sent over the double-track Englewood line. Tickets are sold at the terminal stations, and local fares are registered with Ohmer fare registers. The American Railway Association's standard code of rules is used in handling all trains.

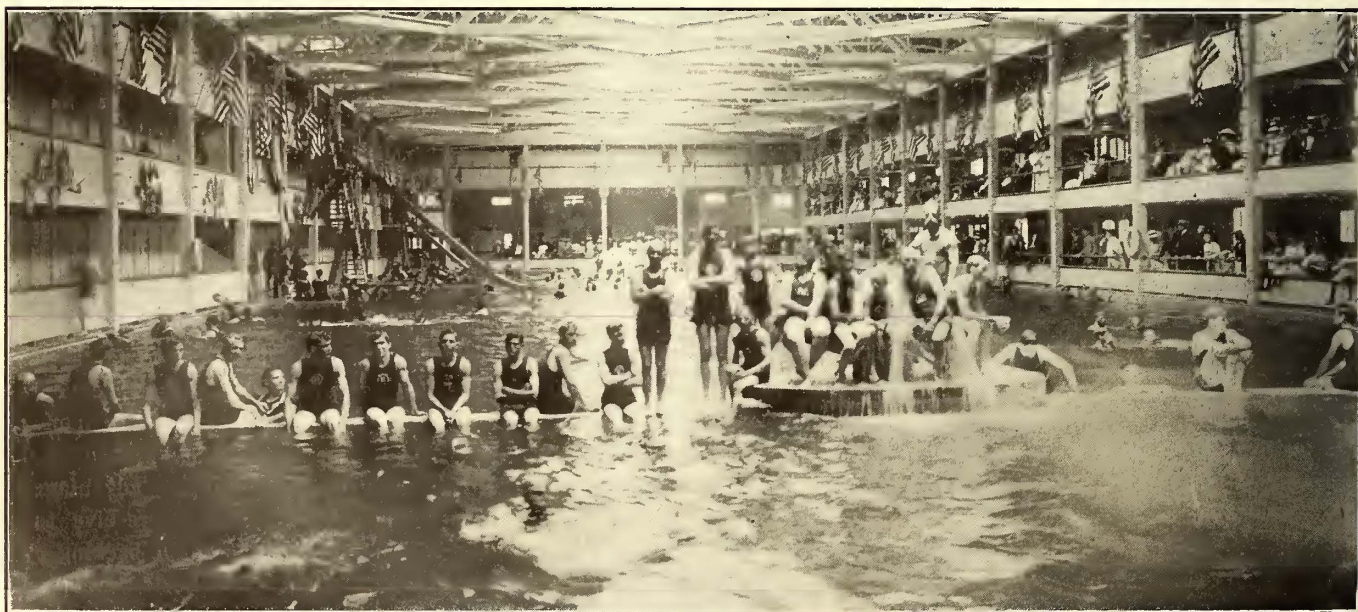
The company has 34 passenger cars, which have been built in its very complete shops at Redondo. A train of



Los Angeles & Redondo Railway—Bath House at Redondo Beach, Showing Breakwater

is double tracked throughout its entire length, the new Moneta line has 3 miles of single track and the Strawberry Park line 7 miles of single track. South from Redondo, the terminus, two lines parallel the ocean beach. One serves three large wharves owned by the company and the other

these cars, coupled for multiple-unit operation, is illustrated on the opposite page. The construction details of the rolling stock as built at the Redondo shops were described in the *ELECTRIC RAILWAY REVIEW* for April 11, 1908, page 445. An order for 10 additional cars has been



Los Angeles & Redondo Railway—Swimming Pool in Bath House at Redondo Beach

reaches Clifton-by-the-Sea, an attractive beach resort, 2 miles south of Redondo.

Eighty-one trains are scheduled out of Los Angeles daily, and about half of these trains are made up of two cars. The running time of the locals between Los Angeles and Redondo, about 20 miles, is 52 minutes. The limited

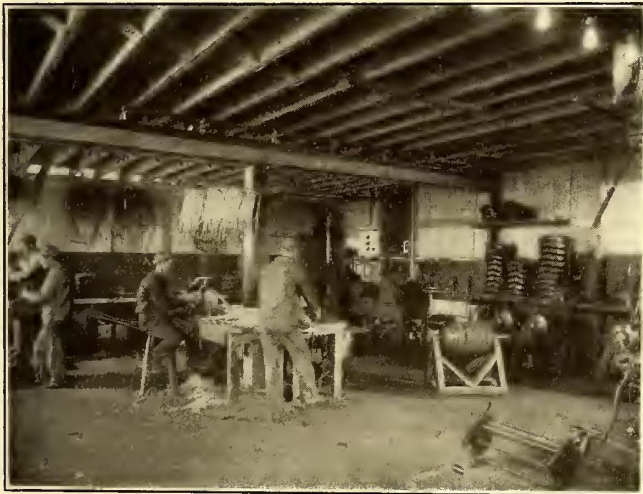
placed with the company's own shop. These cars are to be delivered by July, 1910, and to be built complete, including trucks, in Redondo. The new cars will have a seating capacity for 38 passengers in the closed section and 10 passengers in the open end, and will be equipped with four Westinghouse 38-B motors and Westinghouse multiple-unit

control. The Eclipse fenders are used on all of the company's equipments, and are said to have been the means of saving several lives. Passenger cars are fitted with Lintern markers.

The freight equipment includes three electric locomotives 30 ft. long, weighing about 35 tons, 40 box cars and 65 flat cars, all built at the company's shops. There are also three locomotives used in construction and maintenance work.

The tracks are laid largely on a private right-of-way, having few grades, and are built to a gage of 3 ft. 10 in. The rails are of the 70-lb. standard section, laid on 8-ft. ties. Power is purchased from transmission companies and

electric tracks on them are used exclusively for freight handling. The other wharf serves as a landing for passenger vessels and as a recreation pier. The electric railway line serves as a connecting link between the Santa Fé system and the lines of freight boats touching Redondo. All the freight for the Santa Fé system is loaded and un-



Los Angeles & Redondo Railway—Electrical Shop



Los Angeles & Redondo Railway—Passenger Wharf at Redondo Beach

converted in five substations owned and operated by the railway company. It is distributed to the cars on a standard d.c. overhead trolley.

FREIGHT TRAFFIC

Three freight trains are run daily each way between Los Angeles and Redondo. In addition to this service, a berry train, made up of six cars in the busy season, is run daily. The Wells-Fargo Express Company operates two combination passenger and express cars run in regular service all the year.

A heavy merchandise freight business is carried on in

loaded at the electric railway company's wharves and switched with the company's electric locomotives.

The character and amount of business over these wharves are shown in the custom house report for the month of May, 1909, which includes the following figures:

Passengers	1555
Merchandise leaving	501 tons
Oil leaving	12,800 bbl.
Oil received	11,000 bbl.

The imports also include 5,000,000 ft. of lumber, 2,200,000 shingles, 60,700 ties, 1300 poles, 2345 tons of merchandise.



Los Angeles & Redondo Railway—Multiple-Unit Train Built in Company's Shops and Regularly Operated in Service to Redondo Beach

connection with the Pacific Coast steamship companies which use the wharves of the Los Angeles & Redondo Railway Company at Redondo. The steamship companies turn over about 2400 tons of merchandise a month for delivery by the electric railway. Two of these wharves which have

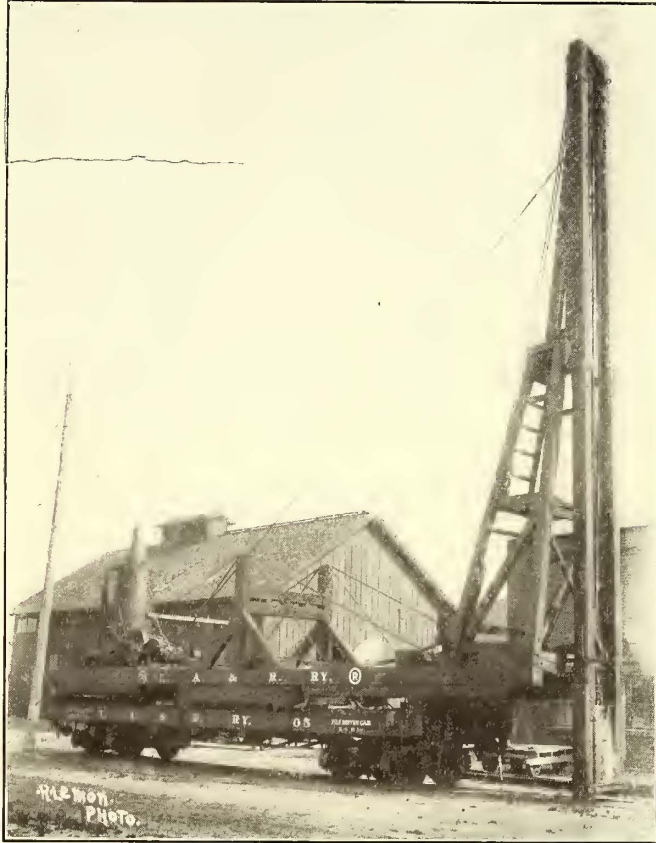
Freight tariffs over the electric railway are filed according to the rules of the Interstate Commerce Commission. The company has a large terminal freight station in Los Angeles at Jefferson and Grand Avenues. Its Los Angeles passenger station is at Second and Spring Streets.

A view is also presented below showing the large pile driver used in the maintenance of the company's wharves. This equipment was designed and built in the Redondo shops. It has a 4500-lb. hammer which can be used in driving 70-ft. piles. The hammer is raised by a winch operated by a two-cylinder, 20-hp steam engine.

One freight pier has four tracks, each laid with three rails for either narrow or standard-gage cars. It extends into the ocean so that vessels 600 ft. long can be docked in 35 ft. of water at low tide.

Among the many attractive features which the railway company has developed at Redondo Beach are a large public bath house, a pavilion auditorium, tent city and excellent dining service.

The auditorium pavilion, owned and operated by the



Los Angeles & Redondo Railway—Pile-Driver Car Used in Wharf Construction

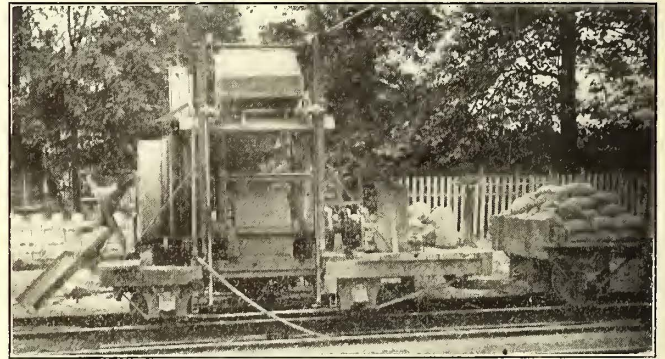
company, is 210 ft. x 157 ft. in size, and was built at a cost of \$100,000. It is located on the beach close to the water's edge, and is an attractively designed structure, with a seating capacity for 4000 people on the second floor. The first floor of the auditorium building contains a theater and a row of small stores. The main assembly hall has a fine dancing floor of beechwood, which will accommodate 600 couples at one time, and ample provisions for the comfort of the guests are provided in the way of rest rooms, smoking parlor and check room. A broad promenade entirely surrounds the building. The company maintains a band to furnish concerts and dance music each day.

The bath house, a structure 278 ft. x 156 ft., is said to have the largest hot salt water plunge in the United States. The three pools are supplied with a continuous flow of warm sea water, obtained from the condenser discharge of the Redondo Beach power plant of the Pacific Electric Light & Power Company. These three swimming pools are a baby pool, 30 ft. x 70 ft., with a depth of water ranging

from 1 ft. to 2 ft.; a high diving pool of like dimensions, with water 9 ft. deep, and a main pool, 157 ft. x 70 ft., with water from 3 ft. to 5 ft. deep. The three pools are built of concrete lined with green glazed tiling, and have a capacity of 485,000 gal. The water is supplied by a 12-in. pipe discharging salt water at a temperature of from 90 to 100 deg. An auxiliary pipe discharges a 6-in. stream of cool ocean water. The building enclosing these pools has four stories and a basement. There are now 950 dressing rooms available for use, and the top floor has been held in reserve. Space is provided there for the addition of 500 dressing rooms. As many as 2000 people ordinarily use the bath house in a day and pay 25 cents each as an entrance fee. The bath house cost \$160,000.

CONCRETE MIXER IN MEMPHIS

The shops of the Memphis Street Railway recently have completed the concrete mixing outfit illustrated. The mixer was supplied by the Chicago Concrete Machinery Company, Chicago, Ill., and is designed especially for street railway work. The railway company built the car for carrying this mixer and the special propelling truck. The car which carries the mixer is supported on two axles with 24-in. wheels. These low wheels permit placing the mixing outfit so close to the street that materials can easily be shoveled into the charging skips. A 15-hp motor is used



Concrete Mixer Used in Memphis

to operate the mixing drum and the charging skips. The movement of both is controlled by levers on the platform. The car is moved along the street by a GE-800 motor mounted on a single axle and partly carried by a wrought-iron connection bar. The controller for this motor is mounted on the mixer car platform, near the switches and levers which control the mixing machinery. This separate pair of wheels for carrying the propulsion motor was necessary because of lack of room under the low mixer car platform, due to the small wheels.

According to the *Japan Chronicle*, the Hachioji-Kafu line of the Japanese Middle District Railway is to be electrified. Fifteen motor cars have been ordered from the Osaka Railway Carriage Company.

The public works committee of the Chamber of Deputies of the Argentine Republic has reported favorably on the project of the Western Railway for the construction of a tube railway from the Ouce to the Port of Buenos Ayres. The municipality of Buenos Ayres also has a project for a system of tube lines and the Anglo-American Tramway Company, which operates the surface street railways in that city, has made an offer to build an extensive system of tunnels.

VALUATION OF PUBLIC UTILITIES BY THE RAILROAD COMMISSION OF WISCONSIN

The Wisconsin laws affecting public utilities provide that the Railroad Commission of the State "shall value all the property of every public utility actually used and useful for the convenience of the public." It is also provided by law that the commission in making the valuation may avail itself of any information in possession of the State Board of Assessment. The reason for this latter provision arose in part from the fact that the Railroad Commission and the Board of Assessment for several years have been served by a joint engineering staff, at the head of which is Prof. W. D. Pence, engineer for the two commissions. The importance of the attitude of the Wisconsin laws toward the subject of valuation is further indicated by the provision that the Railroad Commission can make a revaluation, at any time, on its own initiative.

Valuations made by the engineering staff for the Railroad Commission are considered in the decisions of the commission concerning rates charged for public utility services and are, therefore, matters of vital concern to the utility corporations of the State. It is understood that the position of the commission is that the valuations at which the engineering staff arrives constitute evidence for consideration in all proceedings bearing on the adequacy of rates. As submitted by the staff, the valuations are regarded as somewhat tentative and always subject to revision if the justice of change is made plain.

Ordinarily in making a valuation a complete inspection of all the physical property of the corporation is undertaken, and every effort is made to ascertain original costs and to determine particularly in what manner and to what extent values are affected by conditions that are peculiarly local. The staff is so organized that the principal branches of the work are referred to different heads of departments, who, with their assistants, make complete reports, which, when combined, form the basis of the final conclusions embodied in the tentative valuation submitted to the commission.

Professor Pence, in discussing the advisability of regarding the valuations reported by the staff as tentative, stated to a representative of this paper recently that while it is believed that the methods followed yield the fairest estimates obtainable, precedents have to be created in many instances and, therefore, neither the staff nor the commission is willing to regard these valuations as necessarily conclusive until a final decision in each case is rendered by the commission.

Heads of the various departments of the engineering staff principally concerned in the work of valuations explain the methods followed, as indicated below.

OVERHEAD EQUIPMENT

W. F. Sloan, who has charge of the field inspection and estimates of overhead and telephone equipment, said that in most cases actual field inventories of the physical property are made. In the valuation of the railway property of the Milwaukee Electric Railway & Light Company, however, it was found that the records of the company were nearly complete. The valuation staff, therefore, secured the company maps and copied the official records and checked the equipment in the field by inspection. In this case the staff did not inspect by personal visit all of the apparatus and equipment. Over 90 per cent of the overhead work and over 10 per cent of the manholes were inspected personally by members of the staff. The intent

was that the staff should be assured by actual inspection that the records of the company were substantially correct, and enough field work was undertaken to substantiate this fact. With the other properties in the State, which are all smaller, the practice is to plot the location of the poles on large insurance maps. In valuing the wiring, 80 per cent is allowed for copper and 20 per cent for insulation. During the inventory of properties through the State interesting facts were learned bearing on the average life of different parts of the equipment. By digging down 6 in. or 8 in. below the surface, the staff inspected various poles carefully. As a result of this inspection, extending to practically all parts of the State, an extreme variation of 10 to 20 years in the life of wooden poles is assumed, but the average is about 12 to 18 years. Due to conditions peculiar

THIS SPACE FOR BINDING										
Wisconsin Street Railway Appraisal of 190.....					W. & A. FORM 021		Sheet No.			
Name of Road					TROLLEY EQUIPMENT		Compiled by			
Name of City							Date			
Location		From			To					
Material	Amount	Kind	Length	Date Installed	Cond. %	Cost New	Cost New Minus Scrap	Col. (1) of Col. (2)	Scrap Val.	Pres. Val. (3) + (4)
Poles.....										
Wire.....		Trolley.....								
Labor on Trolley.....										
Equipment.....										
Special Work.....		Cost of Curves.....								
		Labor on Curves.....								
		Lightning Arresters.....								
		Section Insulators.....								
		Riser Box.....								
		Bridge Box.....								
Data Collected by.....						Total.....	Total.....			
Date.....										
Location		From			To					
Poles.....										
Wire.....		Trolley.....								
Labor on Trolley.....										
Equipment.....										
Special Work.....		Cost of Curves.....								
		Labor on Curves.....								
		Lightning Arresters.....								
		Section Insulators.....								
		Riser Box.....								
		Bridge Boxes.....								
						Total.....	Total.....			

Wisconsin Valuations—Form for Appraisal of Trolley Equipment

to certain localities, it was found that poles in one community had a very short life, and in another a life far in excess of any which the staff had been justified in assuming as normal. The dates of purchase and installation of the poles are secured in each case.

In valuing telephone properties an inventory of the overhead equipment is made in about the same manner as that followed for electric lighting and power overhead equipment. Dates of purchase of telephone apparatus and all other available information bearing on the cost or life are secured.

In making these valuations the staff has endeavored to ascertain as far as possible the scrap value of the material and the approximate minimum percentage of value at which service could be maintained profitably. The staff also determines the service value of the equipment, estimating the age if not known.

BUILDINGS AND OFFICE EQUIPMENT

R. M. Fuestel has direct charge of the field inspection of buildings and office equipment. In making valuations of these classes of property the practice is to sketch a plan

tion equipment has been completed, the staff returns to the office of the company undergoing valuation and places a value on each individual piece of apparatus. In fixing these prices it is believed that average conditions are secured by following the general practice of the staff in calculating five-year averages. After fixing the five-year average value the final price, which may involve some deviation up or down from the average value, is reached. Various conditions of actual purchase may have an effect on cost value that may cause marked deviation in the final price adopted. After the contract or original value is secured and the various elements affecting price are considered the present value is fixed. The cost value as calculated includes the cost new and the freight plus the expense of installation. In figuring the present value, use is made of the unit cost minus the scrap value, leaving the wearing value to be depreciated according to age and conditions of operation.

MECHANICAL

Prof. J. G. D. Mack, chief mechanical inspector of the commission, has under his direction the valuation of mechanical equipment and material. Forms are provided so that a complete inventory may be made of the mechanical apparatus if used by any one who is not familiar with the property. It is necessary that the inventory shall be so made that the equipment may be traced by the description on the form. It is considered that inspectors will not be able to compute the present value to within 10 per cent of the true condition. Books are provided in order that the inventory of the piping may be made complete. Thirty per cent is usually added to the cost of piping, new, as calculated, to cover the expense of freight and erection.

BUILDING SITES AND RAILWAY RIGHT-OF-WAY

W. E. Miller, assistant engineer and office engineer, said that in valuing the right-of-way of electric railways the practice is to make a map of the property by towns and to send to the county seat and ascertain the assessment of similarly situated lands by the latest tax rolls available. Usually this assessment was made one year prior to the one in which the valuation is prepared. From these data the assessment for a certain strip along the line of the road is learned. From the total acreage and the total assessed value in certain adjacent strips of lands the total assessment value per acre is derived. The records of the State Board of Assessment give the assessment ratio based upon exhaustive field investigations of actual transfers for the year. Then the average assessed value per acre is divided by this ratio and the result is assumed to be the true market value per acre based on sales for the year in the assessment district. The cost of acquiring land used for railway right-of-way is assumed to be 2½ times the local value for farming purposes, and by multiplying the true market value per acre, as ascertained in the manner outlined, by 2½, the valuation for railroad purposes is obtained.

The following illustrations indicate the practice followed in making valuations or right-of-way for railways: By 11 transactions land aggregating 9.93 acres was purchased for a consideration of \$1,750, making the average price per acre to the railway \$176.13. The assessed value of land aggregating 1676.59 acres, used for farming purposes and located on both sides of the railway, was \$110,565, or an average of \$65.93 per acre. From the records of the statistician of the State Board of Assessment the assessment ratio was ascertained, by which the staff was able to find the assumed real value per acre. By dividing the assessed value by the ratio the true value for ordinary purposes is

ascertained. Thus, \$65.93 divided by 0.793 gives \$83.14. The latter figure, it was held, represented the true value of land in that district for farming purposes as determined by farm sales. To this value was applied the ratio of 1 to 2½ already mentioned. Since the railway company in this case paid \$176.13, its land cost about 2⅛ times the nominal market value obtained in the manner above outlined. In another similar instance there were seven separate transactions for land aggregating 10.88 acres used for right-of-way purposes. The total cost was \$1,785, and the average price per acre \$164.36. At approximately the same time it was found that the assessed value on the tax rolls for 2526.75 acres was \$160,770, or an average per acre of \$63.62. The records of the State Board of Assessment showed an assessment ratio for the district of 86.78 per cent. By dividing \$63.62 by 0.8678 the real market value per acre was ascertained to be \$73.32. In this case it is known from the company's records that it actually paid \$164.36, so that this land cost about 2¼ times the market

THIS SPACE FOR BINDING	
Wisconsin Street Railway Appraisal of 190	W. E. MILLER 572
Name of Road	Sheet No.
CAR SPECIFICATIONS	
Compiled by	
Date	
General Data	Car Fixtures
Railway Company	Seats
Car Number	Total Capacity
Builder	Type
Class	Finish
Type	Width of Aisle
Seating Capacity	Heating
Trucks	No. of Heaters
Brakes	Lighting
Single or Double End	No. of Fixtures
Platform—Open or Vestibule	No. of Lights
Entrance—Single or Double	Curtains
Car Structure Data	Fenders
Dimensions	Type
Length, over all	Lifeguards and rails
Length, body	Safety Springs
Width, over all	Steps
Height, floor to ceiling	Material
Height, bottom of sillwell over body and board	Running Boards
Height, top of rail over trolley board	Car Fittings
Framing	Headlights
Material	Type
Side sills, size	Number
End sills, size	Signals
Needle Beams, size	Gongs
Corner Posts, size	Conductor Bells
Center Posts, size	Push Buttons
Platforms	Trimming
Width of opening	Sand Boxes
Bumpers	Track Scrapers and Brushes
Sheathing	Guards
Material	Slide
Side	End
End	Guard Rails
Roof	Gates
Material	Signs
Windows	Material
Side, size	Type
No. end site	Location
End, size	Registers
No. end site	Type
Monitor, size	Number
No. end site	Make
Doors	Notes
Body	
Vestibule	
Floor	
Interior Finish	
Material	
Trimming	
Ceiling	

Wisconsin Valuations—Form for Securing Data Regarding Cars

value. The two instances here cited chance to show ratios less than 2½, which latter ratio was derived from extended investigations over the entire State.

In making valuations of land used for location of power stations and like purposes a diagram is usually drawn showing the total value of real estate in the city in question from 1901 to 1907, inclusive, for instance. If the tax rolls are not made out for 1908, the value of all land in the city is determined from the summary of values of real estate found in the tax rolls and from the corresponding assessment ratios. The value of all the land in the city is learned and these values are reduced to diagrammatic form. There has been almost a uniform upward tendency in the value of real estate in the communities of Wisconsin, and, therefore, it is assumed by the engineering staff that real estate continued to rise in value in 1908 at the same general rate as during the several preceding years. Unless evidence to

the contrary is found, it is assumed that the value of all the real estate throughout the city, and therefore of the tract under investigation, increased in the same proportion; for example, in one specific instance, where the calculation was made by this method, it was determined that the 1908 value would be 9.1 per cent more than in 1907. The figures in the method outlined apply only to land for improved real estate and to unimproved land, a separate valuation being made for the buildings. After the value is fixed in this way from prices of surrounding lots, it has been the usual practice in valuing large tracts to add 10 per cent for the extra cost of acquiring the property in small pieces to bring it under single ownership. There is variation from this practice in the valuation of private right-of-way for railroads in large cities. For property of this kind 10 per cent is usually added for the larger tracts of land and 33 1/3 per cent for strips of 100 ft. in width or less.

The members of the staff whose names are given in the foregoing article have all had experience in railway or other public-utility properties, and some of those mentioned had experience in important appraisals of large properties prior to their connection with the staff. A complete set of printed forms has been provided for use by the staff in collecting and tabulating the data for the valuations.

THROUGH TICKETS BETWEEN CROYDON AND LONDON

For more than a year a frequent service of motor omnibuses, operating from Oxford Circus, London, to South Croydon, and paralleling for a considerable distance the Croydon Corporation Tramway's main line, south of the terminus at Norbury on the County of London boundary, made a very serious inroad into the Corporation Tramway's traffic. A gap of about 1 1/2 miles existed between Norbury and the terminus of the London County Council Tramways system at Streatham, and this break was responsible for diverting to the motor omnibus line a large volume of traffic, as many passengers from Croydon de-

And Between	Streatham Common S. Side	Streatham Library	Telford Avenue	Brixton Station	Angell Road Brixton Road	"Swan" Stockwell	Fitzalan Street Kenningt'n	Vauxhall Cross	Waterloo Bridge Emb./am't	Victoria Station	John Carpenter Street Brookline
Purley	3 1/2	4	4 1/2	5	5 1/2	5 1/2	6	6	6 1/2	6 1/2	7
"Red Deer"	2 1/2	3	3 1/2	4	4 1/2	4 1/2	5	5	5 1/2	5 1/2	6
"Greyhound"	2	2 1/2	3	3 1/2	4	4	4 1/2	4 1/2	5	5	5 1/2
West Croydon Station	1 1/2	2	2 1/2	3	3 1/2	3 1/2	4	4	4 1/2	4 1/2	5
Thornton Heath Pond	1	1 1/2	2	2 1/2	3	3	3 1/2	3 1/2	4	4	4 1/2

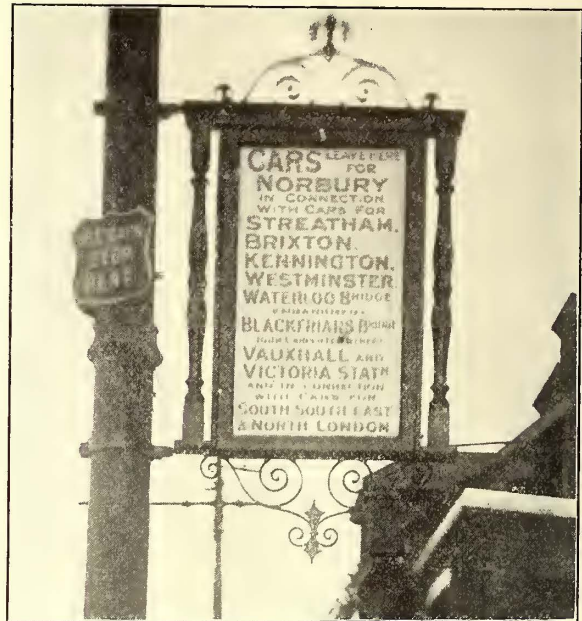
Fare Zones and Through Rates of Fare, Croydon to London

sired to travel to points beyond the Norbury terminus. Last year the London County Council obtained the passage of an act authorizing the construction of a connecting link between Streatham and Norbury, and, with the view of meeting, in some degree at least, the competition of the motor omnibus service, A. L. C. Fell, chief officer of the London County Council Tramways, and T. B. Goodyer, tramways manager of the Croydon Corporation, recommended to their respective Councils the adoption of an extensive system of interchange of traffic to enable passengers to travel over the joint systems with a through ticket. Passengers, however, must change cars at the connecting point, Norbury. The basis of the through traffic arrangement adopted is that the amounts apportioned between the two systems are strictly proportional to the fare zones traversed on the lines of each system.

As the motor omnibus competition was more keenly felt by the Croydon lines, that corporation agreed to quote several special cheap fares effective only as part of a through ride to or from points in London.

The accompanying table shows the through traffic zones and fares on the respective systems.

It will be observed that passengers can travel from



Through-Service Advertising Sign on Trolley Pole

Purley, at the extreme end of the Croydon system, to Blackfriars Bridge, on the London County Council, on a through ticket costing 7d., for a ride of 13 1/2 miles. Of this amount the Croydon Tramways receive 3d. for a haul of 6 miles and the London County Council Tramways receive 4d. for a haul of 7 1/2 miles.

Considerable thought was given to the design of the through ticket put into use. It was especially desired that the officers of each system should have a record of the amount of fares, both payable to and receivable by each other. Samples of the duplex tickets issued by the Croydon Tramways are reproduced. The ticket issued by the London County Council Tramways is exactly similar to that issued by the Croydon Tramways, except, of course, that the order of the fare stages is reversed.

The following is extracted from the instructions issued to the conductors of the Croydon lines:

These tickets will be punched twice, in duplicate; first, in the section at which the passenger boards the car, and, secondly, in the section on the London County Council system to which the passenger desires to travel. They are perforated, and, after punching, the top part is to be torn off and handed to the passenger.

Passenger Boarding Car at—	Requiring to Ride to, say—	WILL HAVE THROUGH TICKET PUNCHED IN DUPLICATE—		The Conductor will issue the top part of ticket, and collect from passenger the sum of—
		In Croydon Section	In London Section	
Purley	Streatham Library	Purley	Streatham Library	4d. —
"Red Deer"	Brixton	"Red Deer"	Brixton	4d. —
"Greyhound"	Waterloo Bridge	"Greyhound"	Waterloo Bridge	5d. —
W. Croydon Station	Victoria	W. Croydon Station	Victoria	4 1/2d. —
Thornton Heath Pond	John Carpenter St.	Thornton Heath Pond	John Carpenter St.	4 1/2d. —

When a passenger from Croydon boards the London County Council Car at Norbury the conductor of that car

APPRAISAL OF PHYSICAL PROPERTY OF THE CONEY ISLAND & BROOKLYN RAILROAD

In a report of a hearing before the New York Public Service Commission, First District, concerning the valuation of the tangible property of the Coney Island & Brooklyn Railroad, published in last week's issue of the ELECTRIC RAILWAY JOURNAL, page 377, the main figures presented by the commission were given. The article stated that since the report of the appraisal was compiled the existence of various additional items of physical property, which might properly be included in the appraisal, had been proved. The figures as given out, however, contained no allowance for these additional items of tangible value. It was stated, in the testimony offered on behalf of the Commission, that no value had been allowed to cover franchise rights in the value of a going concern, etc. A list of these intangible values, as stated in the ELECTRIC RAILWAY JOURNAL of June 19, 1909, page 1122, was given by Frank R. Ford, of Ford, Bacon & Davis, engineers for the company, in a communication to the commission.

DIGEST OF COMMISSION'S APPRAISAL

The detailed appraisal of the physical property of the company is contained in a report of 185 pages, divided among subjects with separate totals as follows: Track, \$729,852.80; track, special work, \$241,882.30; paving, \$421,474.73; overhead trolley construction, \$145,965.63; overhead feeders, \$110,632.25; underground conduit and cables, \$336,324.49; power plants and substations, \$733,393.07; buildings, \$579,983.80; rolling stock, \$1,383,461.50; real estate, \$187,800; miscellaneous, \$103,679.77.

To the total of all of these items, excepting real estate and miscellaneous, an aggregate of 15 per cent was added to cover the following: Incidentals, 5 per cent; organization, 5 per cent; engineering, 5 per cent.

In showing the reproduction value of the track a summary is given of the main items comprising the total amount determined on this part of the property. The summary is then amplified in the following pages. The total value for track is reached in the following manner:

Estimates, 1 to 10	\$674,769.46
Excavation	3,818.10
Fill	6,323.00
Plank crossings	249.60
	<hr/>
	\$685,160.16
Deduct for track occupied by special work.....	\$47,435.37
Deduct for track owned by B.R.T. (Neptune Ave.)	7,768.18
	<hr/>
	55,203.55
Total for straight track in street.....	\$629,956.61
Straight track in car barns and yards.....	28,356.44
Add for track in Jay Street now torn up.....	3,702.14
Add for track on Front St., between Washington and Adams,	1,487.36
	<hr/>
Total for straight track.....	\$663,502.55
Allowed for general contractor—10 per cent.....	66,350.25
	<hr/>
Grand total	\$729,852.80

The detailed estimates, 1 to 10, covering varying lengths of track, are valued at rates running from \$1.34 to \$3.77 per foot. In computing the excavation, values ranging from 20 to 40 cents per yard are allowed. The allowances for the fills are either 50 cents, \$1.00 or \$1.50, depending on the character of the material. The plank crossings are figured at \$40 per thousand feet, B. M. The reference to track in Jay Street, now torn up, relates to track which is to be restored immediately.

The track for which the largest estimate is allowed, \$3.77 per foot, comprises 67,972.26 ft. and is described as follows:

L. S. 90-lb. rail, 206-60-ft. lengths. Ties, 2 ft. 00 in c.c. 12 whole angle bars. Tie rods 6 ft. 0 in. c.c. Granite paving, asphalt on one side with concrete base.

The cost to construct one mile of single track of this

description, which is typical of the detail estimates of cost for this part of the property contained in the report, is stated as follows:

Excavation, 2,787 cu. yds. at \$1.30.....	\$3,623.10
Ties, 2 ft. 00 in. c.c. 2640 at \$0.70.....	1,848.00
Rail, L. S., 90 lb., 206-60-ft. lengths, 141.4 tons at \$39.00.....	5,514.60
Rail joints, 176 at \$3.00.....	528.00
Tie rods, 880 at \$0.30.....	264.00
Spikes, 31 kegs at \$4.00.....	124.00
Double bonds, labor included, 352 at \$1.50.....	528.00
Track laying, 5280 ft., at \$0.32.....	1,689.60
Concrete, 882 cu. yds. at \$6.00.....	5,292.00
Hauling, 160 tons at \$2.00.....	320.00
Extra stock and losses.....	200.00
	<hr/>
Total cost per mile.....	\$19,931.30
Total cost per foot.....	3.77

Details are given regarding the straight track in car barns and yards. The allowance for this track extends from \$0.88 to \$1.68 per foot. The cost to reproduce this track is computed on a mile basis. As in the instances of the straight track built on the surface, there are variations in the allowances for the different items entering into the expense of construction of track in car barns, yards and shop.

The estimate for track special work is reached by calculation of the cost of the detail items at \$219,893, to which is added \$21,989.30, as allowance for general contractor, 10 per cent, making the total of \$241,882.30. The sub-headings under "Track Special Work," with the allowances for the items, are as follows: Steam and electric crossings, \$12,005; crossovers, turnouts, etc., \$35,138; special work in car houses and yards, 43,440; curves, \$37,310; double track crossings, \$9,150; double track branch offs, \$26,560; special layouts, \$48,660; cross bonding, \$7,630. The locations are stated in each instance except with reference to the cross bonding. The values for all of these classes of property except the cross bonding are the values new.

The allowance for paving is divided as follows; Granite, \$336,007.14; asphalt, \$25,398.13; cobble, \$19,453.58; paving tracks to be restored in Jay Street, \$2,300; total, \$383,158.85. To the last named amount there is added an allowance of 10 per cent for general contractor, making an aggregate of \$421,474.73. The cost to reproduce the granite is computed at \$2.30 per square yard. The sheet asphalt is figured at \$1.50 per square yard and for the additional cost of asphalt block over sheet asphalt, \$1.50 is allowed for certain paving and \$0.67 for other work. The cobble paving is valued at \$0.65 per square yard. The total includes also an addition for paving in the tracks to be restored in Jay Street, \$2.30 per square yard for granite paving.

The allowance for overhead trolley construction consists of the following items: Poles, \$78,916.03; hardware, tangent track, \$8,004.30; hardware, special work, \$9,021.90; miscellaneous, \$14,351.08; trolley wire, \$22,402.72; total, \$132,696.03; allowance for general contractor, 10 per cent, \$13,269.60; grand total, \$145,965.63.

In valuating the iron poles the 5-in., 6-in., 7-in. poles were figured at 661 lb. each and the 6-in., 7-in., 8-in. poles at 834 lb. each. The aggregate weight of these poles was valued at \$3.22 per cwt. The cost of setting the iron poles in place was fixed at \$15.25 each, divided as follows: Excavation, \$2; concrete, 1 yd., \$8; hauling, \$2; repairing curb, \$1.25; painting, \$0.50; trimmings, \$1.50. Two lots of chestnut poles in place were valued, respectively, at \$12.50 and \$6.50. The wooden poles valued at the larger sum were set in rock and the allowance was divided between \$8 for excavating rock, hauling and setting and \$4.50 to cover the cost of the pole. The smaller sum allowed for wooden poles was for poles set in earth

and was divided as follows: Excavating earth, hauling and setting, \$3; cost of pole, \$3.50.

The inventory of overhead hardware on tangent track is shown in complete detail, with unit prices. The labor on 828 spans is figured at \$2.50 each, and on 46 brackets at \$4.25 each. An allowance of \$500 is made for stores loss during construction. The inventory of hardware for overhead special work is shown in similar detail. To the list as compiled an allowance of \$500 is added for stores loss and breakage during construction. To the total thus secured 100 per cent is added for labor in installation of this material.

The miscellaneous overhead trolley construction shows as its largest item \$11,126 for wood trough in place at \$1 per foot.

Details of the value fixed for trolley wire show calculations by running track feet, with allowances of 3 per cent for sag and waste and additions for special work. The total number of feet all sizes, and this figure reduced to miles are shown. The following weights in pounds per foot are shown: No. 0, 0.3195; No. 00, 0.4029; No. 0000, 0.6405. The value per pound is computed at \$0.1975 and the labor cost is placed at an average of \$60 per mile.

Overhead feeders in place are computed at \$94,438.42, and the hardware at \$6,136.36, a total of \$100,574.78, to which is added 10 per cent allowance for general contractor. To the lineal feet of the 500,000 circ. mil cable, 5 per cent was added for sag and corners, and the weight was computed at 1.9 lb. per foot. The same allowance for sag and curves was made for No. 0000 cables, the weight of which was figured at 0.08 lb. per foot. The total number of pounds of triple braid or power cable was figured at 16 cents per pound. Labor costs were computed as follows: 500,000 circ. mil at \$75; No. 0000 at \$50. To the total obtained on these items there was added an allowance of \$1,000 for extra labor, installing on structure, anchoring poles, etc. The locations of the overhead feeder cables, with the length in each case, are given. To the costs of hardware for the overhead feeder cables \$500 was added to cover store loss, breakage, etc. This sum was about 10 per cent of the total value shown by the inventory. The cost of labor in placing crossarms was computed at 50 cents each.

The reproduction value of underground conduit and cables was divided as follows: Underground ducts, \$144,039.29; high-tension cables, \$95,873.60; 600-volt feeder cables, \$61,676.08; negative return, \$4,160.57. To the total thus obtained 10 per cent was added for general contractor. In valuing the underground ducts a division was made as between new ducts since July, 1907, and old ducts previous to July, 1907. In addition to the physical inventory value of the new ducts, \$66,964.50, an allowance is made of \$7,035.50 for "removing obstructions, extras and incidentals." The physical inventory value of the old ducts is stated at \$61,122.33 and \$8,916.96 is added for "removing obstructions, extras, incidentals, etc." The ducts, manholes and iron pipe are valued at cost.

The 11,000-volt transmission cable is valued at \$1.265 and \$0.875 per foot in place. The inventory value of the underground feeder cables is \$57,776.08 and \$3,900 is added to this sum to cover labor and material for connections at substations and power houses. The bare copper return cable is valued at \$0.163 per lb. in place, a total of \$3,062.57, while \$1,098 is added for the labor of installing the cable and bonding to the track.

The allowance of 10 per cent for general contractor on

power plants and substations is based on \$666,720.98, making the total valuation for this class of property \$733,393.07.

The replacement value is figured for the mechanical and electrical equipment of the old Smith Street power plant. Concerning the electrical equipment in the old Smith Street plant the report says: "The old equipment is considered as a stand-by to the new equipment. The generators appear to be in good operating condition." The inventory of the new Smith Street plant shows some allowances for extras. The apparatus in the new plant is said to be in "first-class operating condition." The equipment listed for the DeKalb Avenue substation was installed in 1908 and "is in first-class operating condition." The same statement is made concerning the equipment in the Kings Highway substation. The estimate for the electrical apparatus and crane in the latter substation does not include any allowance for engineering and superintendence.

To the physical value of buildings used in operation of the road the usual allowance of 10 per cent for general contractor is added. There are four buildings not now used in the operation of the road, which would cost to reproduce to-day \$70,048, but this figure is not included in the total making the value of the property as appraised for the commission. The detail costs for the buildings do not include any percentage to cover organization, engineering and incidentals.

The total value allotted for rolling stock is reached without the inclusion of an allowance for general contractor. The appraisal of the car bodies was revised on March 31, 1909, to conform to revised prices submitted by The J. G. Brill Company in a letter dated March 28, 1909. The unit prices of car bodies new range from \$1,270 to \$2,100. The unit prices of trucks new extend from \$205 to \$290. Motors without gears or pinions are figured from unit prices new of \$204 to \$609. Gears are valued at \$13.50 and pinions at \$2.50. An additional price of \$1,083 is allowed for double hand brakes. The sum of \$8,590.40 is allowed for glazing and painting vestibules. The estimated unit prices new for service car bodies were taken as the total cost to reproduce.

The detailed appraisal of revenue car bodies shows the costs, with a few exceptions, as they appear on the records of the Coney Island & Brooklyn Railroad as compared with the costs to reproduce in 1909, as submitted by The J. G. Brill Company.

The real estate is included at its assessed value.

Detailed appraisals are given for furniture and fixtures and other items classified under "miscellaneous." Scrap and second-hand machinery, implements and apparatus, fixed tools, floating tools, supplies and horses, harness and wagons are included in this classification.

According to a recent Government report, the total amount of water-power in Canada available for generation of electrical energy is 25,680,000 hp. Only 517,000 has been developed.

On Aug. 23 the cable cars on the Highgate Hill line on the outskirts of London were operated for the last time. The line has been purchased by the London County Council, and will be converted to an underground electric conduit system. This was the first cable line built in Europe and was opened about 25 years ago. It is claimed that no persons have been killed by or on the cable cars since they began operation.

TICKET ACCOUNTING FORMS OF THE UTICA & MOHAWK VALLEY AND THE ONEIDA RAILWAYS

An interesting method of keeping records of supplies of ticket forms and ticket sales has been devised by Albert Eastman, general express and passenger agent of the Oneida Railway and the Utica & Mohawk Valley Railway, for use on these two systems, which now maintain 30 ticket-selling stations and use upward of 500 different forms of tickets.

The record of tickets as they are received from the printers, record of ticket supplies on hand and the record of

ing number in the "tickets supplied" column with the closing number in the "tickets received" column. A distinctive feature of this ticket record system is the method of "cutting" the edges of the leaves to provide a thumb index. Fig. 1 shows a partial group of the sheets for keeping records of the ticket forms handled at the Syracuse station. The bottom sheet shows the station name "Syracuse," and each sheet above is used as a record of one form of ticket sold by the Syracuse agent, the index to the complete form appearing at the right-hand edge. The top sheet contains the record of the round-trip tickets reading Syracuse to Utica, Form No. 10, the price of which is \$1.40. A complete

Record of TICKETS RECEIVED						Record of TICKETS SUPPLIED to Agents					
Date Received	Received from	Number of Tickets Received			Received by	Date	Supplied to	Invoice No.	Number of Tickets Supplied		
		Comm No	Clos No	No. Tickets				Comm No	Clos No	No. Tickets	
1909											
Jan 1	Stock	1000	4999	4000	E. J. B.	Jan 10	E. J. Brown	51	1000	1500	500
						Feb 5					
July 10	Printer	5000	7999	3000	"	Feb 5	"	76	1500	2500	1000
Aug 1	Printer	8000	14999	7000	"	Apr 8	"	100	2500	3000	500
						May 10	"	153	3000	4000	1000
						June 1	"	175	4000	5000	1000
						July 10	"	210	5000	7000	2000
						Aug 13	"	230	7000	8000	1000

SYRACUSE

S. T. CANASOTA

R. T. CANASOTA

S. T. ONEIDA

R. T. ONEIDA

S. T. VERNON

R. T. VERNON

S. T. C. MILLS

R. T. C. MILLS

S. T. UTICA

R. T. UTICA

Form 10

RATE \$1.40

Fig. 1.—Group of Loose Leaves for Keeping Records of Tickets Received and Supplied to Agents

tickets issued to local agents are kept in the general passenger agent's office in a loose-leaf book, several leaves from which are reproduced in Fig. 1. The separate sheets are about 17 3/4 in. long by 12 in. wide. The left-hand portion of the leaf, comprising about one-third of the sheet, is used for a record of tickets received from the printer. The column headings provide for entering the date received, name of firm which did the printing, the commencing number, closing number and number of tickets

group of sheets for any one station contains the records for every form of ticket handled at that station reading to all other stations. At the present time on the Oneida Railway the greatest number of different forms handled at any one station does not exceed 30, and the loose leaves, which are 12 in. deep, permit 36 index cuts on the edge. If more than 30 forms are handled at any station, it would be necessary to increase the depth of the sheet from top to bottom or else make narrower "steps."

SYRACUSE											Record of Tickets Supplied Agent												Record of Ticket Sales											
											JANUARY						FEBRUARY						MARCH						APRIL					
DATE	Supplied to	Comm. No.	Closing No.	No. Tickets	Invoice No.	DATE	Supplied	Comm. No.	Closing No.	Invoice No.	Date	Comm. No.	Closing No.	No. Sold	Date	Comm. No.	Closing No.	No. Sold	Date	Comm. No.	Closing No.	No. Sold	Date	Comm. No.	Closing No.	No. Sold								
Jan 10	E. J. B.	1000	500	51							1	500	10		1				1				1											
Feb 5	"	1500	1000	76							2	510	8		2				2				2											
Apr 8	"	2500	3000	100							3	518	9		3				3				3											
May 10	"	3000	4000	153							4	527	75		4				4				4											
June 1	"	4000	5000	175							5	532	20		5				5				5											
July 10	"	5000	7000	210							6	572	28		6				6				6											
Aug 13	"	7000	8000	230							7	600	30		7				7				7											
											8	630	43		8				8				8											
											9	673	27		9				9				9											
											10	700	56		10				10				10											
											11	736	24		11				11				11											
											12	780	20		12				12				12											
											13	800			13				13				13											

S. T. CANASOTA

R. T. CANASOTA

S. T. ONEIDA

R. T. ONEIDA

S. T. VERNON

R. T. VERNON

S. T. C. MILLS

R. T. C. MILLS

S. T. UTICA

R. T. UTICA

FORM 10

RATE \$1.20

Fig. 2.—Group of Loose Leaves for Keeping Records of Tickets Supplied to Agents and Daily Sales

in the shipment. The balance of the sheet is used for the record of tickets supplied to agents and gives the date issued, name of agent to whom issued, invoice number, commencing number, closing number and number of tickets supplied to the agent. Each sheet therefore provides a constant inventory of the supply of each form of ticket used. The general passenger agent can tell just how many tickets of any form are on hand at any time by comparing the clos-

The same method of indexing could be secured by the use of tabs or projections along the edge, but it is believed that the system of cutting the edges gives a more convenient and a neater arrangement.

Fig. 2 is a reproduction of a group of sheets from the "record of sales" book, which is kept on practically the same system, except that the index is at the left-hand edge. The left-hand side of the sheet gives the record of tickets

these invoices the entries in the "record of tickets supplied to agents" (Fig. 1) are made. The original of the invoice has at the bottom a perforated stub, which is detached by the ticket agent upon receipt of the tickets, and returned to the general passenger agent as a receipt. The ticket agent retains the original; the stub receipt is pasted at the bottom of the corresponding duplicate invoice in the general passenger agent's office as a permanent record that the ticket agent has received the tickets described.

Fig. 4 is the ticket agent's daily ticket report, and shows the numbers of each form of ticket sold each day, together with the commencing number, closing number, rate and amount. This report is made in duplicate. The duplicate remains in the ticket agent's book, and the original is forwarded to the auditor's office. From this is made up the "record of ticket sales" (Fig. 2).

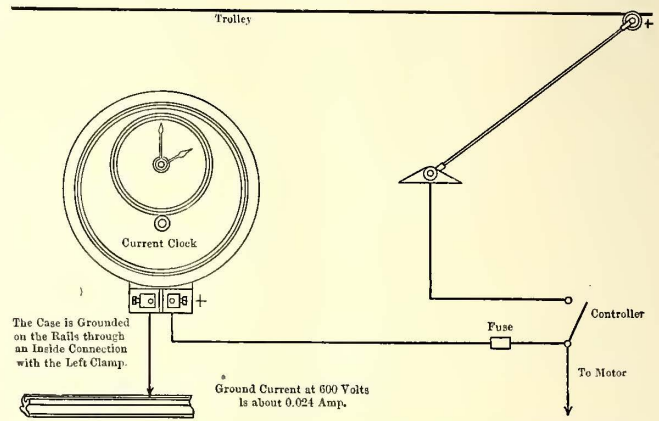
Fig. 5 is a form used by the ticket agent in connection with the form shown in Fig. 4, in making his remittances of cash received from ticket sales. The report is made in duplicate. The duplicate remains in the ticket agent's book, and the original is forwarded to the cashier with the cash. The right-hand portion of the original constitutes a receipt, which is signed by the cashier and returned to the ticket agent, who attaches it to the corresponding duplicate in his book as a permanent record.

RESULTS WITH CURRENT RECORDING CLOCKS ON THE GROSSE BERLINER STRASSENBAHN

Several years ago the Grosse Berliner Strassenbahn, in common with several other German electric railways, began to install wattmeters on some of its cars to see whether the automatic control thus imposed on the motormen would lead to better running and decreased power consumption. By the end of 1907 the Berlin company had over 250 wattmeters in service, but since February, 1908, all wattmeters have been removed and every car on the system has been equipped with a clock which runs only when current is passing through the controller. The change from the complex wattmeter to this simple clock was made after experi-

mental lubrication and track condition, they do not give directly the comparison sought between the performances of motormen. It was estimated that if wattmeters were used on all the cars 40 skilled men would be required to tabulate the readings and make the proper allowances for differences of the character mentioned. These reasons were sufficient to stop the experiments with wattmeters and to cause their replacement by clocks.

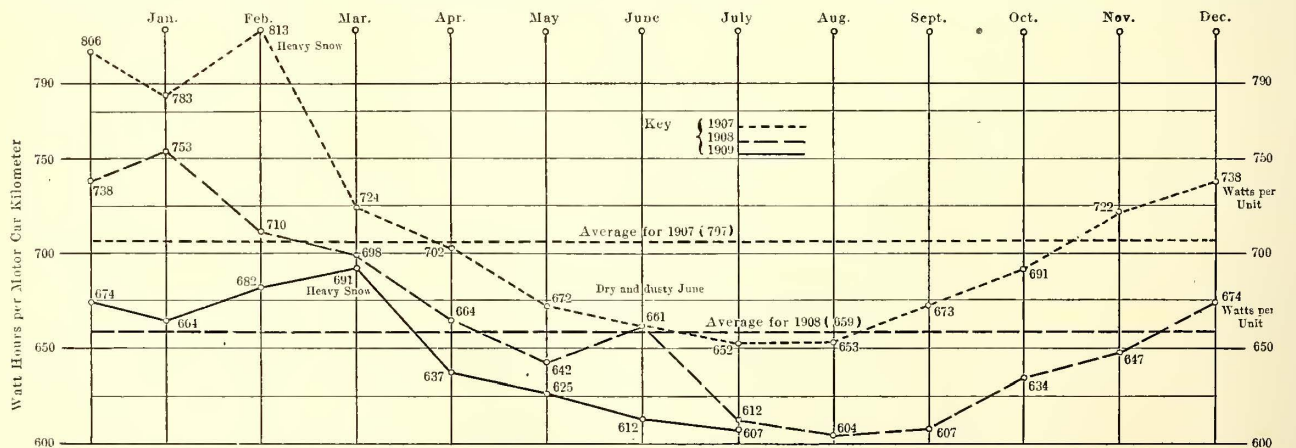
The current recording clock is operated by a spring, like any clock, and will run for more than a month without further attention. The accompanying wiring diagram shows that it is connected in parallel with the controller.



Berlin Current Clocks—Connections

The clock is supplied with a pair of coils which, when magnetized by the shunted current, pull up the armature which holds the balance wheel. As soon as the balance wheel is released the clock begins running and continues to do so until the interruption of the current causes the armature to stop the balance wheel as before. The entire timepiece is of simple construction and can be grounded for potentials up to 600 volts. The manufacturers of this clock guarantee its accuracy for two years. The total cost per installed unit is slightly less than \$10.

The somewhat mysterious character of the wattmeter had made the motormen rather distrustful of control de-



Berlin Current Clocks—Monthly Record of Average Watt-Hours per Car Kilometer

ments with both instruments on the same car had proved that those with the lowest watt readings also had the lowest current-time reading. In fact, the clock was considered superior to the wattmeters as a gage of the skill of the motormen in using current for several reasons. In the first place they are of much simpler construction than the wattmeters, consequently the mechanism is more reliable and less costly to maintain. Again, as the wattmeters record the slight differences in car weights, jour-

nales in general, but no exception is taken to a clock which anybody can understand. As a matter of fact, the company did not attempt the introduction of the clocks on a large scale until their purpose had been privately explained to the standing committee of the employees, known as "Vertrauens maenner" (trusted men), and until the proper relations between the running and coasting time had been broadly determined by the motormen instructors for each route.

pleted, for 1909 up to the end of June shows that the reductions are still continuing. The difference in the percentage of the cost of power for the years 1907 and 1908 quoted above does not show the true saving because the motor car kilometers in 1907 were 71,811,914 as compared with 76,639,250 in 1908.

Shortly after the introduction of the clock system it became noticeable that many motormen were reaching their terminal points ahead of time. Consequently the company, instead of buying new cars and engaging more crews for 1909, increased the schedule speed fully 10 per cent. It has been estimated that in 1909 this change will save 350,000 marks (\$87,500) through avoiding the purchase of 80 new cars and hiring 300 men. Two other important savings are in the reduction of armature troubles and brake-shoe wear. Armature repairs have actually dropped 20 per cent to 30 per cent, despite the prophecy that the clocks would have the opposite effect. This one saving covers the cost of the entire record staff and stationery. The brake-shoe wear naturally has been lessened because the men take the maximum advantage from coasting, and thus there is little kinetic energy left to be wasted during braking.

The use of the current clocks in Berlin has been largely due to K. Otto, chief engineer of car equipment.

CAR HOUSE FIRE IN NEW YORK

The car barn and shop of the Union Railway at the Boston Road and 175th Street, New York, which is used for making running repairs to the cars of that company, was destroyed by fire on Sept. 1, causing a loss unofficially estimated at \$200,000. The Kingsbridge power station of the company adjoins the barns and the power cables extending from the power house to the street were burned. Power was shut off from 10:45 p. m. on Sept. 1 until 6:45 a. m. on



Ruins of 175th Street Car Barn of Union Railway Company, New York

Sept. 2. As soon as the fire had subsided enough to make it possible to go to work, splicers began to repair the cables. In all, 42 cars were destroyed, 38 of which were closed cars not in service, and four were sweepers. As shown in the accompanying engraving, the entire building was reduced to a mass of ashes and twisted iron. It was with difficulty that the flames were kept from spreading to the power house. The elevated portion of the "subway" passes

the property of the company at this point, and the operation of trains on the structure had to be suspended temporarily during the fire on account of the intense heat. The timbering on the structure caught fire in one or two places, and it was necessary for the firemen to turn their attention to it temporarily. The engraving shows a side view of the building and the burned power cables.

CONVENTION NOTES

A traffic circular has just been issued by the Denver (Col.) City Tramway Company giving particulars of some of the features of the city and inviting all electric railway men to attend the convention of the American Street & Interurban Railway Association and manufacturers to make exhibits. The circular carries a sketch of the Convention Hall.

The Central Electric Railway Association has appointed a special committee to take up the question of a special train for the Denver Convention. The following committee has been appointed: A. A. Anderson, general manager, Indianapolis, Columbus & Southern Traction Company; A. L. Necremer, secretary Central Electric Railway Association; W. S. Whitney, general passenger agent, Ohio Electric Railway; F. D. Carpenter, general manager, Western Ohio Railway.

The Burlington route, over which the special convention train from Chicago to Denver will be run, has published a very attractive circular in regard to this train. The circular contains a schedule of the times at which the train is expected to leave Chicago and arrive at Denver and intermediate points, an account of the equipment of the train, prices of railroad rates and Pullman rates, and some particulars of trains which are to be used for the return trip. An announcement is also made of the fares from Chicago to Los Angeles and San Francisco, should anyone desire to extend his trip to the Pacific Coast. The circular is addressed to the members of the American Street & Interurban Railway Association and its affiliated associations and is signed by J. M. Roach, president Chicago Railways Company and chairman of the committee, and by the other members of the committee in charge of this train, to whom requests for reservations should be made.

In addition to the manufacturers mentioned in the lists of intending exhibitors, published in the *ELECTRIC RAILWAY JOURNAL* for Aug. 14 and Sept. 4, the following companies have applied for exhibit space at the Denver Convention:

- Avery Scale Company, Milwaukee, Wis.
- Barber Car Company, York, Pa.
- C. A. Wood-Preserver Company, Austin, Texas.
- St. Louis Malleable Casting Company, St. Louis, Mo.
- Traction Lubricating Company, Chicago, Ills.

W. L. Conwell, chairman of the committee on the Pennsylvania special train from New York to Denver, has announced that arrangements have been made by the committee for a special train over the Pennsylvania Railroad returning from the convention. The train will leave the latter part of the convention week and will first go to Colorado Springs. It will return from Denver to Kansas City on the Santa Fé Railroad and from Kansas City to St. Louis on the Chicago & Alton Railroad. The route from St. Louis to New York will be over the Pennsylvania Railroad. Further particulars of this train will be made public later.

CAR WHEEL RECORDS IN DETROIT

Sylvester Potter, master mechanic of the Detroit United Railway Company, has developed an interesting method of keeping car wheel and axle records of cars operated by that company. Every set of wheels is known by its axle number, which is stamped on the axle, with the date the axle was placed in service. A record is then kept in the master mechanic's office of the date on which the wheels were put in service, and of all work done on them when returned to the shops for repairs, as well as of the mileage run by each set of wheels. When the wheels are no longer fit for service the record sheets show the complete history of the wheels. The wheels are then pressed off the axle, and the axle, which retains its original number, is fitted with a new set of wheels and is again placed in service.

By referring to the accompanying illustration, which is a reproduction of one of the original records on file at the master mechanic's office, it will be noted that the original diameter of the wheels used on axle No. 1 was 36 in. After they had been in service under car No. 7296 from May 7, 1908, to Oct. 10, 1908, and had run a distance of 34,213

COMMUNICATIONS

CONCERNING COURTESY

PHILADELPHIA & WESTERN RAILWAY COMPANY

UPPER DARBY, Sept. 6, 1909.

To the Editors:

Some time ago a treatise, entitled "Concerning Courtesy," was published in various newspapers and journals and credited to the Delaware, Lackawanna & Western Railroad. That communication evidently appealed strongly to railroad officials, for quite a number issued it, with slight variations, but some failed to give credit to the company with whom the essay originated. Webster defines courtesy as "An act of civility or respect; an act of kindness or favor performed with politeness." Manifestly, it is not "an act of civility or respect" to use the product of another's brain without giving credit, and it is absurd to advocate courtesy through such a medium, for real courtesy is based upon honesty and sincerity.

In the original the language, precepts and philosophy—with a dash of flattery—runs quite harmoniously until, in conclusion, various reasons are offered to demonstrate that

courtesy pays, but to advocate courtesy because it pays is to incite one by a mercenary and selfish motive, and gives an implied right to be discourteous when it is evident that courtesy does not pay. Courtesy is right and churlishness is wrong. Courtesy arises from benevolence, good will and love for mankind, but to advocate courtesy as an investment because it pays is like advocating honesty as a policy, which is a vicious suggestion, because honesty is better than policy.

WHEEL RECORD											
Make of Wheels		Type of Wheels		AXLE No. 1							
No. of Wheel, Free End of Axle		No. of Wheel, Geared End of Axle		Diameter of Wheel when originally applied							
DESCRIPTION OF WHEELS						MILEAGE RECORD					
Diameters Before Turning	Diameters After Turning	Wheel on Free End of Axle	Wheel on Geared End of Axle	Diameters Before Turning	Diameters After Turning	Under Car No.	Weight	Dates Applied	Dates Removed	Miles run under each car	Total Mileage
35 1/2	34 1/16			35 1/2	34 1/16	7296	First Turning	May 7, 1908	Oct 10, 1908	34,213	
34 1/4	33 5/16			34 1/4	33 5/16	7297	Second Turning	Nov 2, 1908	May 29, 1909	76,218	76,218

Detroit Wheel Record

miles, they were sent to the shops to be turned down. When the wheels were calipered it was found that the tread on both the free and the gear ends of the axle had worn down to 35.5 in. in diameter, while the flange of the former was worn to 7/8 in. and the flange of the latter to 11/16 in. After the wheels were turned the records show that they were again placed in service under car No. 7297 on Nov. 2, 1908, with a uniform diameter of 34 11/16 in. and with other specifications conforming to the standard of 1 1/8-in. flange, 3/4-in. throat and 3-in. tread. The wheels were again sent to the shops on May 29, 1909, after running 42,005 miles on the first turning and a total of 76,218 miles since they were first placed in service. The record card includes spaces for entering the sizes of the wheels before and after six turnings.

If one of the wheels is defective it is sent to the scrap pile and its mate is turned down and held in reserve for use with another wheel of the same diameter. The records of these wheels are prepared from reports made to the master mechanic by the shop foreman.

Some interesting data of car-wheel mileage is shown on the record blanks which the company keeps on file in its office. A compilation of the data secured on 107 axles carrying 36-in. Standard rolled steel wheels, an average life of 116,133 car-miles per set was shown at an average cost for a pair of wheels of \$0.333 per 1000 car-miles. These figures were made without taking into consideration the value of the scrap metal of the wornout wheels.

Railroads are relatively merchants; they sell a commodity called transportation, and they should sell it with all the attendant wholesome comfort and grace possible. A dirty, unkempt person, a filthy tobacco chewer, or a rough, discourteous man has no more right in passenger service than he has in a bank or store. It is the duty of railroad managers to insist upon unvarying consideration being shown to their patrons, especially to a poor woman with her little brood, to the ignorant, helpless foreigner, and particularly to the aged, crippled and infirm. But it is also imperatively the duty of railroad officials to play the game fair with their employees and with the public. If wrongs exist, right them; but one must look on men and affairs with clear vision to see things in their right relations. Many railroad officials who decry the labor organizations to-day unconsciously laid the foundations for them; first, by ignoring flagrant wrongs that ought to have been righted, and, second, by tolerating malevolent employees, whose pernicious influence taught men to think more of their so-called rights than their duties. This may not seem germane to the subject of courtesy, but it lies at the root of it, for courtesy is kindness, justice, fair play and considerate appreciation of what is due others.

The railroad official who aims to inculcate courtesy should exemplify it individually in all the relations of life, not simply to superiors and equals, but to subordinates. It is possible to be quite right and at the same time quite disagreeable, and at times we lack influence with ourselves, but

it is incumbent upon every official to begin with himself, and if he can deserve his own self-respect he has accomplished a great deal. Cheerfulness and courtesy smooth the sharp edges and make association between all sorts and conditions of men tolerable. One may manifest courtesy awkwardly and do violence to the conventionalities, but if it is characterized by sincerity it will find grateful appreciation.

A man, in criticising a street railroad system somewhat notorious for discourteous employees, said, "We have no reason to expect anything better, for the president is a hog." There we have the cause and the effect in a sentence; if a railroad employs and retains discourteous employees, we must look higher up for the source. If you would have good servants, be good masters. Emerson said, "Every great institution is the lengthened shadow of one man." That truth is particularly applicable to railroads, for if the spirit of real courtesy characterizes the intercourse of officials, it is bound to permeate the ranks of the employees.

To meet an employee, to note the atmosphere on entering an office, the tenor of a letter, and sometimes the tone of voice on a telephone, will often reveal the influence that emanates from the higher sources and unconsciously permeates the ramifications of an organization.

Courtesy embraces fair play, right relations, respect, consideration, sympathy, kindness, reverence and sincerity. It is a divine element that a man imbibes from his mother. Like mercy, "it blesseth him that gives and him that takes."

"A poor man served by thee shall make thee rich,
A sick man helped by thee shall make thee strong;
Thou shalt be served thyself by every sense
Of service which thou renderest."

W. H. SIMMS,

Vice-President and General Superintendent.

A CENTRAL RATING FIRE INSURANCE BUREAU

BIRMINGHAM RAILWAY, LIGHT & POWER COMPANY
BIRMINGHAM, ALA., Aug. 31, 1909.

To the Editors:

I notice that in a recent issue you discuss the present anomalous condition of fire insurance and refer to the plan of establishing a central rating bureau for all electric railway and lighting risks. This is a subject which has been considered by the insurance committee of the American Street & Interurban Railway Association, and I believe that the plan would be advantageous to all concerned. The proposition for the establishment of such a bureau was, I believe, first made by the insurance committee, but from information I have received from many parts of the country I learn that the proposal does not meet with favor among insurance men. This, perhaps, is due to the fact that the question is not understood by them, as the conditions have not been fully set forth.

The local agents oppose the plan because they fear business will be taken out of their hands and handled by brokers in the large centers, thereby depriving them not only of the control of the business, but of all or a part of their revenue from premiums. Some of the insurance companies also object because they fear that lines which they now control will be taken out of their hands and rates will be established which will be unsatisfactory to them. So far, no one has been in position to speak authoritatively on the subject so far as our interests are concerned and to answer these objections.

I believe that the association should clearly define its position on this question, and should urge the appointment by the insurance interests of a central rating bureau of experienced and capable insurance men, with power to make rates and decide upon general or special forms on all traction and lighting fire insurance. This bureau should deal with the matter of rates and forms only, and the American Street & Interurban Railway Association should designate a committee to deal with the rating bureau when appointed. In order that this committee's work shall be effective, every member company should pledge the committee its active support, so that all action taken by it shall have the moral backing of the entire membership of the association. The committee should also go on record at once as approving the placing of all insurance locally—that is, by the local managers—and in this connection I believe that the committee should declare its disapproval of the placing of insurance through large central brokerage offices, to the exclusion of local agents.

After the proposed central rating bureau is appointed, the association, through its appropriate committee, should at once establish friendly relations with it, and should assume from the start that the members of the rating bureau are practical, conservative business men, placed there not only to protect the interests which they represent, but also to conserve those of the assured. The members of the rating bureau will be named by the stock companies, both foreign and domestic, and we should recognize these companies as our logical insurance writers. If we fail to secure fair treatment at their hands, the association will find other means of protecting the interests of its members. If these relations are established, the association will be in a position to present the claims of each of its member companies for a consideration of their insurance conditions, and, where necessary, can urge member companies to make such improvements to their property as will justly entitle them to reductions in rates.

It has also been suggested that the association, through its insurance committee, could employ one or more inspectors who would go from place to place, advising with the managements of the railway companies on insurance conditions relating to their properties and securing definite information that would assist the insurance committee in dealing with the rating bureau. If this suggestion is adopted, these inspectors would make a careful study of each property and recommend the improvements that would decrease the fire hazards and thus secure reductions in rates.

If a central rating bureau is established and a committee of the association operates along the lines suggested above, backed in its work by the member companies, much can be accomplished for the benefit of each of the members of the association, and an important branch of our business, which we are now handling indifferently or not at all, will receive intelligent and forceful treatment which will certainly bring results.

A. H. FORD,
President.

The annual conference of the Municipal Tramways Association of Great Britain will be held in London, Sept. 22 to 24.

The Public Service Commission of New York, Second District, reports that of the 58,197 steam railroad trains run in the State during May, 94 per cent arrived on time at division terminals. In June 55,551 trains were run and 92 per cent were on time. The May record is the highest percentage yet reported.

ELECTRIC LOCOMOTIVES FOR THE BRITISH COLUMBIA ELECTRIC RAILWAY

The accompanying illustrations show one of three locomotives recently supplied the British Columbia Electric Railway by Dick, Kerr & Co., Ltd., of London. The electrical equipment was manufactured at their electrical works at Preston, and the trucks and mechanical portion generally at their general engineering works at Kilmarnock. The locomotives are of the articulated truck, four-axle

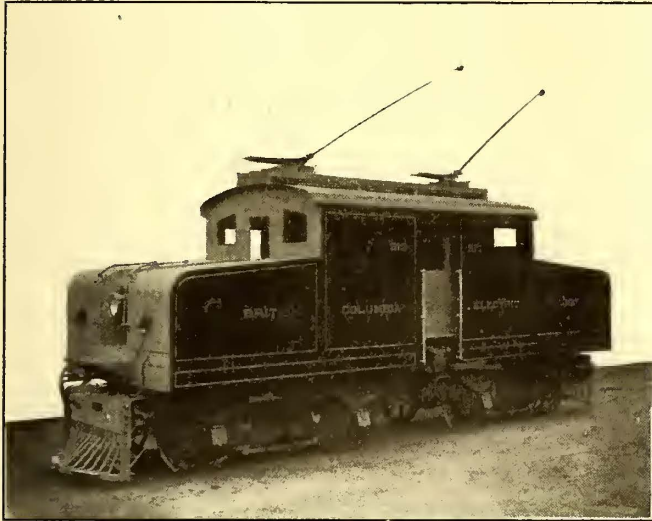


Fig. 1—British Columbia Locomotive—Side View

type, with one motor mounted upon each axle. The maximum rated tractive effort is 16,000 lb. drawbar pull, and the maximum instantaneous effort is 25,000 lb. The hinge connecting the trucks has lateral flexibility but vertical rigidity, so that the rear trucks resist any tendency to tilt under the action of the forward truck, and vice versa. Hence the center pins and cab platform framing are not subjected to any longitudinal stress, except that due to their

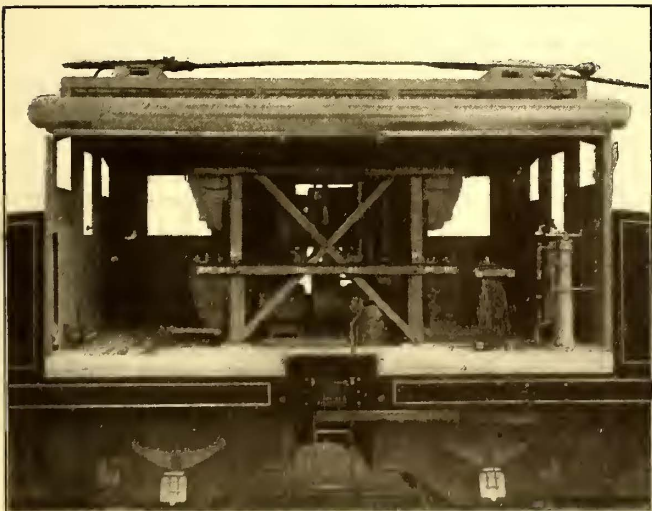


Fig. 2—British Columbia Locomotive—Interior of Cab

own inertia when starting and stopping. Suitable arrangements allow the trucks to radiate when passing round a curve.

The spring suspension is of the locomotive type, the weight being carried by semi-elliptic springs resting on the journal box saddles.

Fig. 1 shows the general appearance of the locomotives, and Fig. 2 gives a view of the interior of the cab. Here

can be seen the two master controllers, one at each end of the cab, the contactor boxes, circuit breakers, switches, etc. The control equipment is of the standard Dick-Kerr multiple unit type, with series magnets operating the various contactors. The resistances are placed in the sloping ends of the superstructure.

The motor equipment consists of four D.K. 12-A motors. When operating on a 600-volt circuit each motor will give a tractive effort of 4040 lb. on the periphery of the 42-in. wheels and a speed of 15 m.p.h. at the one-hour rating. Each motor is fitted with reduction gears having a ratio of 3.64 to 1. The armature bearings of the motors are lubricated by oil rings, the axle bearings by wicking.

The motors are arranged for forced ventilation, the air being blown into the motor shell at the end farthest from the commutator and passing out at suitable openings provided at the commutator end. The air for ventilation is obtained from a centrifugal blower situated in the center of the cab. The controller for operating the blower motor is situated at the right of the master controller. The loco-

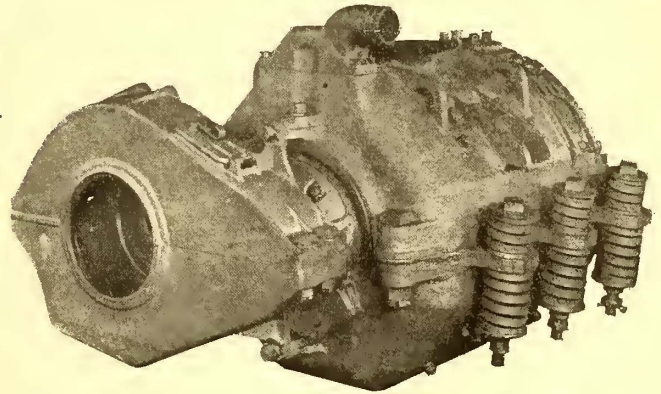


Fig. 3—British Columbia Locomotive—100-Hp Motor

motive is also fitted with combined straight and automatic air brake. The compressor for the brake equipment is mounted above the motor driven blower in the cab. The control is the Dick-Kerr multiple-unit type.

The following data may be of interest:

Diameter of driving wheels.....	42 in
Total wheel base.....	24 ft. 6 in
Wheel base of each truck.....	8 ft. 0 in
Length over all.....	35 ft. 7 in
Length of main cab.....	16 ft. 5 in
Height of cab above rail level.....	14 ft. 1½ in
Width of cab.....	9 ft. 8 in
Total weight of locomotive.....	50 tons

BERLIN SCHEME FOR RETURNING LOST ARTICLES

The Berlin, Germany, street railway company is considering the adoption of a numbered paster system for the convenience of absent-minded passengers who leave their property in the cars. These pasters would be marked with a specific number, and would be of such size that they could be easily attached to inconspicuous parts of umbrellas, canes and the like. Those using the pasters must agree to bear the expense of having the articles returned to their homes by the lost and found department. The latter, of course, is to keep a record of the names and addresses of the persons to whom numbers have been assigned. The importance of the proposed scheme may be estimated from the fact that over 36,000 umbrellas were left in the cars of the Grosse Berliner Strassenbahn last year. This enormous number is due to the Continental habit of carrying either a cane or umbrella at all times.

ELECTRIC RAILWAY LEGAL DECISIONS

LIABILITY FOR NEGLIGENCE

Minnesota.—Master and Servant—Injury to Servant—Res Ipsa Loquitur—Negligence—Presumption—Machinery—Inspection—Evidence.

The application of the maxim "res ipsa loquitur" does not ordinarily depend upon the relation between the parties, except indirectly, so far as that relation defines the measure of duty imposed on the defendant. Under certain circumstances it may apply in an action brought by a servant against a master for injury caused by an agency of the master.

Quere—whether it would so apply where the dangerous agency was in the actual physical control of the experienced servant and in operation by him?

The maxim at most raises a prima facie case of negligence, which is rebuttable. No presumption of negligence necessarily follows the plaintiff through the case, so as to compel the submission of the question of fact to the jury.

An electric passenger carrier fulfils its duty, so far as the controller of an electric car is concerned, if the controller is shown to have been of standard character, made by a reputable manufacturer, in good condition, and to have been subjected to such inspection as is reasonable and practicable. The carrier is required to inspect with adequate care, but not to dismantle complicated machinery for purposes of inspection.

Here plaintiff, a man of at least ordinary intelligence, an instructed and experienced motorman, was injured while operating an electric car for the defendant at a terminal where the cars turned round a loop. The car ran upon the curve of the loop at full speed and was derailed and capsized. Thereby plaintiff received the injuries here complained of. The issue was whether a shock of electricity, passing through him from his left hand, on the handle of the controller, and through his foot, resting upon a metallic part of the car, produced temporary paralysis, by reason of which he was deprived of control of his car. It is held:

That the presumption of negligence conceded was rebutted by affirmative testimony, *inter alia*, as to the safe use of the car for 20 days before and months after the occurrence of the accident, during which the car was shown to have been in the same condition as at the time of the accident, and by the facts shown as to its purchase and inspection.—(Jenkins v. St. Paul City Ry. Co., 177 N. W. Rep., 928.)

Mississippi.—Street Railroads—Injuries to Pedestrian—Sufficiency of Declaration—Allegations of Negligence.

A declaration, alleging that defendant had removed the dirt from under the ties of the track at a place much frequented by the public as a crossing, and did not light the place to warn pedestrians of its unsafe condition, and intestate stumbled and fell onto the track at a point at the end of a curve, so that the headlight did not show his position, and was killed by a passing car, which ran at a rapid rate around the curve, so as to amount to gross negligence, stated a cause of action, and was not demurrable for failure to allege that the crossing was provided by defendant, or was used as a crossing with its knowledge, or was used as a crossing by the public generally; nor was it demurrable on the ground that it did not allege facts showing a duty upon defendant to maintain the crossing in a safe condition for pedestrians.

A count alleging that defendant removed dirt from under the ties of its track at a place in the most populous part of the town, most used by the public, and did not light the place, so that intestate fell onto the track because of its unsafe condition, and was struck by a car after the motorman saw, or could have seen, his helpless condition, and that the motorman was guilty of wanton negligence under the circumstances, was not demurrable for not alleging that the crossing was provided by defendant, or was used as a crossing with its knowledge, or that it was used as a crossing by the public generally.

An allegation that defendant's motorman discovered intestate on the track in time to have stopped the car before striking him, had the brakes and machinery been in working order, was not demurrable for not alleging in what manner they were defective.—(Smith v. Gulfport & Mississippi Coast Traction Co. (No. 13,757.) 48 S. Rep., 295.)

Missouri.—Street Railroads—Regulation and Operation—Obstructions in Streets—Personal Injuries—Questions for Jury—Contributory Negligence.

In an action against a street railroad company for injuries to an automobilist through running into an excavation made by defendant in the street, the evidence held sufficient to support a finding of negligence on defendant's part in failing to maintain proper warning signals.

In an action against a street railroad company for injuries to an automobilist through running into an excavation made by defendant in the street, the question of plaintiff's contributory negligence, held, under the evidence, one for the jury. (Ripley vs. Metropolitan St. Ry. Co., 111 S. W. Rep., 1180.)

Nebraska.—Street Railroads—Public Crossings—Negligence—Persons Crossing Track—Degree of Care—Injuries to Persons on Track—Actions—Questions for Jury—Contributory Negligence.

A street railway company is guilty of negligence if it fails to give proper warning of the approach of its cars to a public crossing, or if it operates such cars at an unusual and excessive speed at said point.

A pedestrian about to cross the tracks of an electric street railway at a public crossing is not under a duty to observe the same degree of watchfulness and care as when attempting to cross an ordinary steam railway.

Defendant maintains a double track street railway on Tenth street in Omaha. Cars north bound use the eastern track, and those south bound the western one. S., about 8 o'clock in the evening of a winter day, alighted west of the track from a south-bound car at a street crossing. S. was familiar with the manner in which defendant operated its cars on said streets. He waited for an instant, and glanced to the south until said car had been propelled some 8 or 10 feet. Not seeing or hearing a north-bound car, he crossed the street without further looking or listening, and was run down on the eastern track by a north-bound car. The testimony tended to prove that said car was running at a speed of 20 miles per hour, and that no warning was given of its approach until within about 10 feet of Howard street, and almost at the instant of the collision with plaintiff. Held, that it was for the jury, and not the court, to determine whether plaintiff was guilty of contributory negligence. (Stewart vs. Omaha & C. B. St. Ry. Co., 118 N. W. Rep., 1106.)

New Hampshire.—Electricity—Injuries Incident to Production—Negligence—Question for Jury—Evidence—Res Gestæ—Materiality—Street Railroads—Agents of Companies—Existence of Relation.

In an action for injuries by contact with electrically charged wires strung across a street without a license therefor, as required by Pub. St. 1901, c. 81, evidence held to require the submission to the jury of the issue of negligence.

In an action for injuries by coming in contact with electrically charged wires strung across a street while plaintiff was engaged in moving a house through the street, evidence of the declarations of a third person, who came and took charge of the wires, in response to a request made on the superintendent of the railway company maintaining some of the wires, made as part of the *res gestæ*, are admissible as bearing on plaintiff's exercise of due care in attempting to raise the wires from the roof of the house at the time of the accident.

Where, in an action for injuries by coming in contact with electrically charged wires strung across a street without a license therefor, as required by Pub. St. 1901, c. 81, it appeared that no attempt was made, at the time of the injury, to disconnect the wires or to remove their supports, the failure to show that written notice was served on defendant, as required by section 14 of the chapter, did not defeat a recovery.

* On the issue whether the superintendent of an electric railway company had authority to direct an employee of the railway company and of a power company to take charge of their high-tension wires strung across a street, evidence held not to show such authority, so that the power company was not liable for injuries sustained in consequence of the act of such employee. (Clough vs. Rockingham County Light & Power Co. et al., 71 Atl. Rep., 223.)

New Jersey.—Carriers—Injury to Passenger—Collision with Team—Negligence—Contributory Negligence—Assumption of Risk—Duty to Protect Passengers.

Whether a motorman, who, on a down grade, shut off his power, and allowed the car to drift, and thus approached so close to a wagon traveling in front of him on the tracks that he was unable to prevent a collision, injuring a passenger, the wheels of the wagon skidding when the driver attempted to leave the track, was negligent in operating his car, is a question for the jury.

For a passenger to ride on the front platform of a street car is not such negligence, as matter of law, as will prevent recovery by him for injury from collision of the car with a wagon.

A passenger, by standing on the front platform of a street car, assumes only such risks as are incident to the

ordinary operation of the car, not those arising from causes ab extra.

An instruction that, as to passengers, it is the duty of a carrier to use a high degree of care to protect them from danger while on its cars, is proper. (*Brackney vs. Public Service Cor.*, 71 Atl. Rep., 149.)

Oregon.—Discovery—Examination Before Trial—"Party"—Subjects of Examination—Carriers—Injuries to Passengers—Street Railroads—Premature Start—Contributory Negligence—Failure to Warn—Res Ipsa Loquitur.

B. & C. Comp. section 826, authorizing the taking of the deposition of a "party" to an action before trial, does not authorize the taking of the deposition of the secretary of the defendant corporation where such secretary was not individually a party.

B. & C. Comp., section 826, subd. 1, authorizing the taking of a deposition of a party before trial, only authorizes his examination with reference to matters pertinent to the issue, and does not contemplate compelling the party to disclose the names of his witnesses, the manner in which he expects to establish his case, or confidential reports or communications of his agent in relation to the controversy.

In an action for injury to a street car passenger while alighting from a moving car, evidence held insufficient to sustain a verdict, either on the theory of defendant's negligence in suddenly starting the car while plaintiff was alighting, or in failing to warn her that the car had not stopped.

Where plaintiff attempted to alight from a moving street car, without any necessity or invitation, and was injured, she was negligent as a matter of law.

The conductor of a street car was not negligent in failing to warn plaintiff against attempting to alight before the car stopped, where the conductor did not know and had no reason to believe that she intended to do so.

That a passenger in a street car was injured by alighting before the car stopped did not of itself constitute a prima facie case of the carrier's negligence. (*Armstrong vs. Portland Ry. Co.*, 97 Pac. Rep., 715.)

Pennsylvania.—Carriers—Injury to Passengers—Contributory Negligence.

Where a passenger alights from an electric car at a place where there are platforms along the tracks, and goes behind the car from which he alights, and is struck by a car on the next track, he cannot recover, where he did not look for it, and took the chance of crossing in front of it.

That a passageway was provided by an electric car company from a platform on which passengers alighted to a platform on the other side of the tracks does not relieve the passenger, alighting from one car on the platform and passing behind such car over such passageway onto another platform, from the duty of looking for a car approaching on the other track, over which he knows cars constantly pass. (*Yevsack vs. Lackawanna & W. V. R. Co.*, 70 Atl. Rep., 837.)

Rhode Island.—Appeal and Error—Review—Questions of Fact—Expert Medical Testimony—Damages—Excessive Damages—Personal Injuries.

In an action for personal injuries, as to the extent and cause of which the medical experts testifying for each party disagree, it is for the jury to pass upon the weight of the medical testimony, as well as the other evidence, and their finding thereon, warranted by evidence, will not be reviewed.

In an action by a woman for personal injuries, if her injuries caused a retroversion of the uterus, which rendered a major surgical operation necessary to effect a cure, a verdict for \$4,156 was not excessive. (*O'Malley v. Rhode Island Co.*, 70 Atl. Rep., 915.)

Texas.—Carriers—Injury to Passengers—Setting Down Passenger—Instructions—Conformity to Issues and Evidence—Trial—Assuming Facts—Refusal of Requests—Special Charges Embraced in Main Charge.

In an action by a passenger against a street railway company for injuries received while alighting from a car, a requested charge that it was the conductor's duty to see and know that no person was in the act of alighting or was otherwise in a position that would be perilous by starting the car, etc., was properly refused; the law imposing on the company merely the duty to exercise through its employees the highest degree of care for the safety of its passengers.

For the same reason a requested charge, introduced by the statement that "it is the duty of the conductor in charge of the car * * * to see and know that all passengers in the act of alighting had succeeded in doing so in safety," was properly refused.

In an action by a passenger against a street railway company for injuries received while alighting from the car, where the issue as to whether the company stopped the car so as to allow plaintiff an opportunity to alight was not

made by the pleadings nor raised by the evidence, a requested charge raising the issue was properly refused.

In an action by a passenger against a street railway for injuries received while alighting from a car, where the only evidence upon which plaintiff could rely for a verdict as to how the accident happened was his own and his wife's that he was thrown from the car, and that his foot became fastened in the step, a charge that if plaintiff voluntarily stepped from the car, and was not thrown therefrom, and his foot did not become fastened in the step, defendant should recover, was not prejudicial as charging that plaintiff was negligent, instead of submitting the question to the jury, since, if the jury found as charged, plaintiff had no case, and a verdict for defendant was necessary.

It is not error to refuse special charges substantially embraced in the court's main charge. (*Bryant v. Northern Texas Traction Co.*, 115 S. W. Rep., 880.)

Virginia.—Carriers—Accident to Train—Collapse of Bridge—Hidden Defect—Evidence—Carriage of Passengers—Personal Injuries—Negligence—Acts Constituting Negligence—"Inevitable Accident"—Trial—Instructions—Presumption of Carrier's Negligence.

Evidence held to sustain the theory that the collapse of a street railway company's bridge was caused by a hidden and internal defect in the weld of a cord which supported the entire structure, and which broke at the place where welded, which defect could not have been detected by the utmost scrutiny.

Where an accident arises from a hidden and internal defect, which a thorough examination would not disclose, and which could not be guarded against by the exercise of a sound judgment and the most vigilant oversight, the carrier is not liable for an injury to a passenger resulting therefrom.

An accident is inevitable if the person in connection with whom it occurs neither has, nor is legally bound to have, sufficient power to avoid it or prevent its injuring another; and in such a case, the essential element of legal duty being wanting, the person cannot be held negligent.

The slightest neglect against which human prudence and foresight might have guarded, and by reason of which an injury may have been occasioned, renders a carrier liable for an injury to a passenger.

In an action by a passenger against a carrier for injuries resulting from the collapse of a bridge, a requested charge that plaintiff, to establish defendant's negligence, must show more than a probability of a negligent act, and cannot recover if it is just as probable that the accident resulted from one of two causes, for one of which defendant was not responsible, was properly modified to state that plaintiff, to establish defendant's negligence, must show more than a probability of a negligent act, but that, when plaintiff had shown that she was injured by the breaking down of the bridge and overturning of the car, it was sufficient proof of defendant's negligence, and that the burden of proof was then on defendant to establish by a preponderance of evidence that it has been guilty of no negligence whatsoever which caused the accident, and that the damage has been caused by inevitable casualty or by some cause which human care and foresight could not prevent.

The presumption of a carrier's negligence does not arise from the abstract fact of an accident to a passenger, but whether it exists depends upon the nature of the accident, which must be such as does not in the usual course of things happen to passengers when due care is exercised by the carrier. (*Roanoke Ry. & Electric Co. vs. Sterrett*, 62 S. E. Rep., 385.)

Washington.—Railroads—Injuries to Persons at Crossings—Duty to Look and Listen—Contributory Negligence.

A person about to cross the track of a steam railway, or an interurban electric railway, on which trains are customarily operated at a high speed, must stop, look and listen, unless such acts would avail nothing.

Where persons approaching an electric railway crossing saw a train approaching, but supposed that it was a local train which would stop at a station which it would pass shortly before reaching the crossing, while in fact it was an express which did not stop there, and they drove on the crossing without stopping, and collided with the train, they were negligent, and a recovery for their injuries was barred.

Where a person of years of discretion approached a railway crossing with her father, who was driving, it was incumbent on her, as well as on him, to stop, look and listen, and where she did not try to stop the horse, or have her father do so, or attempt to do anything to protect herself, and was not prevented from doing so, her recovery for injuries caused by collision at the crossing is barred. (*Cable vs. Spokane & Inland Empire R. Co.* (two cases), 97 Pac., Rep., 744.)

News of Electric Railways

Cleveland Traction Situation

The City Council of Cleveland met on the evening of Aug. 30, but did not reply to the communication of the Cleveland Railway in which it was proposed that Judge R. W. Tayler should draft an ordinance to include all the conditions of the Baker franchise which have been agreed to, this franchise to be passed by the Council and submitted to the voters at once for approval. The company proposes to defray the expenses of a referendum and has offered to deposit sufficient money with the city clerk to cover the cost of a special election. The members of the Council and Mayor Johnson at the meeting on Aug. 30 went into a secret conference, and from what was said after the caucus, it is inferred that the administration will not agree to the proposal of the company. The communication from the company follows in part:

"Replying to your favor of Aug. 27, we can see no reason to change our views concerning the matters therein discussed, as set forth in our letter of Aug. 26.

"We think, moreover, that a more serious question confronts us. It is the desire of the company, and we assume likewise of the Council, that our negotiations should be ended and an ordinance prepared and submitted to the people on or before Nov. 2, the date of the general election. Only 63 days remain. It is only fair to say that we think this will be impossible under the present plan of procedure, and, if it is to be accomplished, some other plan must be adopted.

"We know of no one in whom the Council, the company and the general public have greater confidence than Judge Tayler. We respectfully ask that you join with us in requesting Judge Tayler to act under the following method of procedure:

"That he prepare an ordinance adhering strictly to the fundamental principles of the Tayler plan, as heretofore agreed upon between the Council and the company; that is, that the company may be granted a franchise to operate its existing railway, rendering to the public such service as the Council may from time to time require, at actual cost, including a return to the company of 6 per cent per annum on the true and just valuation of its property; such ordinance to incorporate all the provisions of the Baker ordinance heretofore agreed upon, and to be changed, if at all, only in those sections concerning which we are at variance.

"The valuation to be determined by Judge Tayler, or, if he declines, by three disinterested arbitrators.

"The ordinance to provide that the company may accept the same on, but not before, say the sixteenth day after its passage.

"We now agree to accept such an ordinance, and respectfully ask that you join with us in carrying out such a plan. This will enable the people at once to vote upon an ordinance without any expense to the city, drawn upon the Tayler plan, bearing the approval of Judge Tayler, accepted by the company, and, with the possible exception of a few sections, meeting with the approval, as heretofore expressed, of the Council. This will place the final responsibility for accepting or rejecting such an ordinance where the Legislature intended it should be left, with the people."

The city administration has shown its position on these questions by refusing to accept the proposition of the Cleveland Railway to enact and submit to a referendum vote an ordinance to be drawn by Judge R. W. Tayler on or before the date of the next general election, Nov. 2, 1909. The reply of the Council committee of the whole to this proposition says that the Council will not abdicate its functions, intimating that such an action as proposed by the company would not be legal. Further, the reply states that in addition to submitting the valuation of the property to Judge Tayler, he would be made sole arbiter in the question of fare, the East Cleveland controversy, the interurban controversy, the license provision and the selection of arbitrators.

The administration has proposed that the drafting of an invalidity clause be placed in the hands of a committee of attorneys, consisting of Judge Lawrence, S. H. Tolles, Judge R. W. Tayler and the city solicitor and that the city and the company jointly request Judge Tayler to proceed to value the property. The administration suggests that it will amend the Baker ordinance by writing into it all the provisions that have been agreed during the last negotiations, and in addition will allow the present provisions in that ordinance relative to East Cleveland and the interurban railways to stand, unless some agreement satisfactory to

the city is reached between the company and the other parties concerned before the ordinance is acted upon by Council. It is also proposed that the time after which the city may name a purchaser for the property will be extended from seven to eight years, and that in the matter of arbitration each side shall select an arbitrator without limitation, and that the third man, however chosen, shall not be an official or employee of the city or an official or stockholder of the company. The letter states that the city is ready to proceed to an early settlement along these lines.

If Mayor McQuigg and his ticket are re-elected in East Cleveland no other course will be possible than to carry out the agreement with that village. Mr. McQuigg claims that the village has a contract with the Cleveland Electric Railway to carry residents of East Cleveland to the Public Square in Cleveland for 25 years, and that more than 12 years of that contract remains; further, Mr. McQuigg says this agreement provides that the fare which prevails on Euclid Avenue in Cleveland shall be the compensation for carrying East Cleveland people, no matter whether under the old franchise or a new one. Mr. McQuigg says that the old company made the village of East Cleveland possible by building a line through it; that it always carried people for a straight fare; that it never asked for a modification of the contract, and that the business was profitable until the 3-cent management secured control of the system. The primaries on Aug. 7 will practically tell the story in East Cleveland, as a nomination is equivalent to an election there.

Up to Saturday, Sept. 4, the Cleveland Railway had made no reply to the last communication of the administration. Horace E. Andrews, president of the company, has refrained from making any comment upon the attitude assumed by the administration.

Transit Affairs in New York

Theodore P. Shonts, president of the Interborough Rapid Transit Company, New York, N. Y., has sent a reply to Chairman Willcox of the Public Service Commission regarding the criticism of the Interborough Rapid Transit Company's offer to build subway extensions, in which he said:

"I acknowledge the receipt of your letter of Aug. 27, in answer to my letter addressed to you on the date of June 30 last, relative to the proposed extension of the rapid transit facilities in the city by the Interborough company. I am glad to note that we are agreed upon the fundamental proposition that the subway extensions should be developed upon a comprehensive plan for the accommodation of the citizens of the entire city, and that present development should lay down the foundation for such future extensions as the increased needs of the public may require.

"It was designed in our letter of June 30 to meet this very end, and it was our conviction, after a long study of the situation, that the plan therein set forth was best calculated to accomplish this purpose. We realize, however, as stated in our letter, that in so complex a situation there was room for difference of opinion. I am, therefore, glad to note that you are disposed to accept the overtures for a conference, and shall be pleased to meet you for further discussion at such time as you may appoint.

"We have no pride of opinion on the subject of any specific plan, and are therefore prepared to enter into this conference with an open mind, having in view, however, the prime consideration that the convenience of the public should always be consulted, so as to procure for them for a single 5-cent fare the maximum passenger transportation."

Headed by Isaac Stern, of Stern Brothers, a delegation of business men in the Twenty-third Street dry goods district called on the Public Service Commission on Sept. 2 and requested that Twenty-third Street be made an express station on the proposed Broadway-Lexington Avenue route. According to the plans, a local station was to be provided at Twenty-third Street, the express stations on the route south of the Grand Central Station being designed only for Canal Street and Forty-second Street.

The Public Service Commission has adopted an order for a hearing before Commissioner Bassett to ascertain the precise situation as to an order issued on April 10, 1908, for certain improvements at the Gates Avenue station of the Lexington Avenue elevated line of the Brooklyn Union Elevated Railroad. The original order required a widening

of the stairway from the gallery to the island station platform and also an additional stairway on the north side of Lexington Avenue to the gallery. The company prepared plans for a stairway wider than the one ordered, and opposition followed from property owners and business men in the neighborhood, who objected to having so much of the sidewalk taken. The borough president refused a permit, and an injunction was obtained by property owners, so that the stairway has not been built, and the present order was adopted to see if some satisfactory plan could not be formulated.

The Chicago Wage Controversy

Thomas E. Mitten, president of the Chicago City Railway, announced on Sept. 1 that he would accept an amended wage schedule which was presented to the contending parties by Walter L. Fisher, the city's traction expert. Mr. Fisher has been active in the wage controversy and has attended all of the sessions looking toward a settlement and submitted several plans with the object of adjusting the matter. Mr. Fisher's latest plan is based on a wage scale effective for a period of four years from Aug. 1, 1909, as follows: Men who have been in the service of the company for one year on a salary of 27 cents per hour are to receive under the new contract 28 cents an hour during the first year, 29 cents an hour during the second year, 29.5 cents an hour during the third year and 30 cents an hour during the fourth year. New men are to receive 23 cents per hour for the first three months, 25 cents an hour for the next nine months, 26 cents per hour for the second year and 1 cent per hour increase during the third, fourth and fifth year of service. The committee representing the employees of the Chicago City Railway announced that it was satisfied with the schedule as suggested, and Sept. 7 the committee submitted the plan to a referendum vote of the employees for acceptance.

John M. Roach, president of the Chicago Railways, declined to accept the new Fisher plan. He stated that the company could not afford to pay the salary called for, but expressed himself as being willing to arbitrate the question for a flat rate of wages for men in service on the lines controlled by his company. On Sept. 2 the employees of the Chicago Railways adopted resolutions offering to arbitrate the question of an increase in wages on the basis of a one-year contract from May 31, 1909, to May 31, 1910, with the understanding that the arbitration is to be founded on a flat rate of wages ranging from 27 cents to 30 cents per hour. It is not expected that the placing of the settlement of the differences between the Chicago Railways and its employees in the hands of a board of arbitration will be decided upon until the result of the referendum vote by the employees of the Chicago City Railway is known.

Philadelphia Transit Talks

Transit Talk No. 9 of the Philadelphia (Pa.) Rapid Transit Company was dated Aug. 12, 1909. The subject was: "Where One-third of Our Earnings Go." The talk follows:

Taxes on corporations come largely out of those who buy their product. The street railway company, which sells its product (transportation) to the "average man" is taxed over 12 per cent of its gross receipts, while the big manufacturing companies, like the steel companies, which sell their product to the rich, are taxed very lightly or not at all.

The theory is that manufacturing should be encouraged because it employs labor on a large scale. Let us see.

The United States Steel Corporation, out of one year's gross receipts of \$757,014,768, paid wages of \$160,825,822, or 21 per cent. The Philadelphia Rapid Transit Company, out of receipts of \$18,288,763, paid out in wages \$3,833,684, or 21 per cent—the same as the steel company.

According to the theory referred to, we should be as lightly taxed as the steel company. But we were not—far from it!

The Philadelphia Rapid Transit Company pays heavier taxes than does any other traction company in the United States; that is, it contributes a much larger proportion of its gross earnings to the public treasury than is asked of transportation companies elsewhere.

In Pittsburgh the traction company tax amounts to 4 per cent of gross receipts; in Milwaukee, 6 per cent; in New York the Interborough pays 6½ per cent; in other cities the rate is even lower. We pay over \$2,500,000 a year in taxes, or over 12½ per cent of our gross receipts.

Isn't there something wrong in this? Because, as we said at the start, the tax is paid in the last instance by the purchaser.

Transit Talk No. 10 was dated Aug. 17, 1909, and was published in part in the ELECTRIC RAILWAY JOURNAL of Aug. 20, 1909, page 299. Transit Talk No. 11 was published in the ELECTRIC RAILWAY JOURNAL of Aug. 28, 1909, page 334. Transit Talk No. 12 was dated Aug. 24, 1909. The subject was "The Trailer Cars." The talk follows:

About Oct. 1 we shall begin running our new trailer cars.

Sixty trailer trains are being equipped for service, and 20 of them will be assigned to the Lancaster Avenue and Baring Street lines. The others will be placed on lines where they are most needed.

The leader cars of the trains will be pay-within cars. This type of leader has been selected for purposes of safety. With the pay-within car as leader there can be no attempts to board or leave the forward car after the train is in motion.

This was the source of danger when trailer cars were formerly in service. A mis-step usually meant a fall under the wheels of the trailer car.

The results of exhaustive tests have convinced us that all the old drawbacks have been eliminated by the mechanical equipment and safety devices of the new trailer car. Separate motors on the rear cars and an improved air-brake system make it possible for motormen to operate the trailers with the precision of steam or subway trains. The old starting jerk and stopping jolt are no longer to be feared, and every precaution has been taken to insure absolute safety.

Our return to the use of trailer cars to relieve traffic congestion morning and evening has attracted no little interest in the transportation world. We cannot do away with rush-hour crowding, but we hope to lessen it. The old system of street car trains was defective. We have overcome these defects.

The type of trailer car we have evolved is a distinct departure from anything now in use. You will be the judge of its serviceability, and we think you will like it.

Transit Talk No. 13 was dated Aug. 26, 1909. The subject was "Accidents." The talk follows:

How to alight from a street car safely has been told so often that there should be no need to repeat the simple rule to be followed. But so many accidents continue to happen because passengers, especially women, insist upon alighting in the wrong way, that it seems necessary to publish this reminder:

In getting on or off a car, always take hold of the front handle. In getting on or off the front platform, take hold of the upright at the dashboard. If you are leaving or entering by the back platform, take hold of the upright attached to the body of the car. In that way, if you should slip and the car should start, you can save yourself; but if you have grasped the wrong handle you will probably be thrown.

Here is page No. 1 from our book of Rules and Regulations for Conductors and Motormen:

"The safety of the public is the first consideration in the operation of a railroad, therefore the utmost care must be exercised at all times to prevent accidents. Very much depends on the care of the motorman. He should always be on the alert to avoid danger, and his attention should never be diverted from his duties. He should keep his eye constantly on the track before him to prevent accidents or injuries to persons who may not at the moment be able to get out of the way of the car.

"The conductor's duty in the safe operation of a car is to allow ample time for passengers to get on and off the car before pulling the bell. If old and feeble, allow them time to be seated, as a fall on the car can be of as much consequence as a fall off. Keep your hand from the bell cord while assisting on or off those who may require it. Realize the fact that you are the conductor of the car, and this implies that you are a safe and competent person."

This is one of the 109 rules in the book—all aimed to make street-car travel safe. But the best rules will not always prevent accidents if the passenger does not use ordinary care.

Meeting of Central Electric Accounting Conference

A preliminary notice of the meeting of the Central Electric Accounting Conference to be held at Indianapolis on Sept. 11 was published on page 375 of the ELECTRIC RAILWAY JOURNAL of Sept. 4, 1909. M. W. Glover, chairman of the conference, states that Room 210 in the Traction Terminal Building, Indianapolis, has been selected as the place for holding the meeting, and that the time has been fixed at 12:30 p. m.

The following subjects have been listed for discussion and members are urged to attend and requested to come to the meeting prepared to discuss them:

1. The Advantages of Uniform Methods of Accounting.
2. Methods of Computing Car-Hours and Car-Mileage, with Especial Reference to Passenger and Freight Trailer Cars, Non-Revenue Mileage, Mileage in Terminal Cities, Blockades and Lost Running Time.

Picnic at Portland, Ore.—Employees of the Portland (Ore.) Railway, Light & Power Company had on Aug. 16 the third of a series of picnics given during the summer by the management.

Southern Pacific Company Not to Withdraw Motor Cars.—H. J. Small, general superintendent of motive power of the Southern Pacific Company at San Francisco, Cal., writes that the motor cars which have been operated by that company between Stockton and Sacramento and Stockton and Fresno have not been withdrawn, and that he knows of no good grounds for the statement made in certain newspapers that the cars were not a success on long hauls.

Meeting of the New York Railroad Club.—The New York Railroad Club will resume its sessions with a meeting on Sept. 17 at the building of the United Engineering Societies, 29 West Thirty-ninth Street. The committee appointed to nominate officers for the ensuing year will present its report, and Frederick C. Syze, trainmaster of the Baltimore & Ohio Railroad, will present a paper on "Surprise and Efficiency Tests of Employees Charged with the Operation of Trains."

Picnic of the Brooklyn Rapid Transit Employees.—The Brooklyn Rapid Transit Employees' Benefit Association held its annual picnic at Schuetzen Park, Glendale, L. I., on Sept. 3. It was estimated that more than 5000 people, including members of the association, their wives, children and friends, were in attendance. The Brooklyn Rapid Transit Band and the Brooklyn Rapid Transit Pipe and Bangle Corps furnished the music during the day. A number of valuable prizes were awarded to the winners in the series of athletic events that had been arranged.

The Hudson & Manhattan Railroad Extension in New York.—The Hudson & Manhattan has announced that the stations on its line at Twenty-eighth Street and Sixth Avenue and Thirty-third Street and Sixth Avenue will be completed by May 1, 1910, and that on that date the company will operate trains from the temporary terminal at Sixth Avenue and Twenty-third Street to Sixth Avenue and Thirty-third Street. The consents of more than half of abutting property owners have been secured for the proposed extension of the company's line from Thirty-third Street and Sixth Avenue to the Grand Central Station at Fourth Avenue and Forty-second Street.

Reductions in Assessments in Chicago.—Both the Chicago City Railway and the Chicago Railways asked the board of review to reduce their personal assessments as made by the assessors. The assessors fixed the value of the property of the Chicago City Railway at \$19,700,000 and that of the Chicago Railways at \$20,000,000. The Chicago City Railway asked for a reduction of \$8,477,000 and the board of review finally fixed the figures at \$16,889,999. The board of review in considering the application of the Chicago Railways for a reduction fixed upon the sum of \$15,000,687. A further reduction of \$1,578,868 from this amount has been asked by the company, however.

Commission on Revision of Sherman Law Adjourns.—The commission appointed by President Taft to consider proposed changes in the Sherman law and the interstate commerce act has adjourned, to meet later in the autumn at Washington. The draft of the changes that will be recommended to Congress by the President will not be completed until near the conclusion of the meeting at Washington. A rough draft has been completed, however, and copies of it will be sent to the members of the commission who were not present at the recent session, and a copy will also be sent to the President. It is considered likely that the first draft will be amended as the result of the study it will receive at the hands of the members before the next session of the commission.

Outing of New York Employees.—On Aug. 24 the employees of the Second Avenue Railroad and the Central Park, North & East River Railroad, New York, N. Y., held a joint outing at Donnelly's Park, College Point, Long Island. Among the many athletic features of the outing was a baseball game between the employees of the companies, which resulted in favor of the team representing the Second Avenue Railroad. The outing was attended by 222 men. George W. Linch, the receiver of the Second Avenue Railroad and general manager of the Central Park, North & East River Railroad, and John Beaver, financial representative of the Second Avenue Railroad and secretary and treasurer of the Central Park, North & East River Railroad, were in attendance as representatives of the companies.

Consideration of Kansas City Ordinance Urged by President Corrigan.—Bernard Corrigan, president of the Metropolitan Street Railway of Kansas City, has published the following notice to the public in the daily press regarding the ordinance now under consideration: "Eighty thousand copies of the proposed contract (ordinance) between Kansas City and the Metropolitan Street Railway Company have been distributed. Any person who has not seen a copy will confer a favor on the company by advising it of that fact, and a copy will be forwarded to such person by return mail. Every voter and other person interested in Kansas City is requested to read this ordinance and advise his councilman what he thinks about the matter. After ample time has been given to consider the ordinance it will be submitted to the Council for its action thereon."

Olive Green Standard Color of Rhode Island Company.—The Rhode Island Company has adopted olive green as a standard body color. The city cars have been green for a number of years and the suburban cars brown. The green used heretofore, however, has been of a slightly lighter shade. A. E. Potter, general manager of the company, writes that the green paint heretofore used was too light to be durable, but that the change to a deeper or olive green would hardly be noticed unless two cars, one painted with the old color and the other with the new, were standing close together for comparison. Olive green will also be adopted for the suburban lines of the company instead of brown, whenever it is necessary to repaint the suburban cars. The standard color of the cars of the Connecticut Company has been yellow for some time.

Gift to Institute Library.—The Western Electric Company has presented to the library of the American Institute of Electrical Engineers a most valuable addition in the shape of a patent specification library. This gift constitutes the largest accession since the original creation of the library by Dr. S. S. Wheeler with the Latimer Clark collection. The patent library which the Institute thus

acquires contains no fewer than 461 substantial leather-bound volumes containing approximately 100,000 specifications. These specifications begin with May 30, 1871, and run to December, 1908, thus covering the entire period of activity which includes the telephone, the electric light, electric railways and the electric motor. From May 30, 1871, up to the last day of 1887 the volumes are complete, containing all the specifications issued by the Patent Department, certified. From July, 1887, up to Dec. 1, 1908, the volumes contain all the electrical specifications which are not certified. The original set cost more than \$4,000, and duplicates of these specifications, if now purchased from the Government and bound, would cost between \$4,000 and \$4,500. Edward Caldwell, chairman of the library committee of the Institute, has already taken the matter in hand as to proper care and installation of the library, so that the members may derive the greatest possible benefit from having such a collection at their disposal, and has also taken measures to complete the set to date.

Proposal for Subway in Chicago.—It has been announced in Chicago that the engineering and contracting firm of George W. Jackson, Inc., will shortly submit to the City Council a proposition to build an extensive subway system estimated to cost approximately \$80,000,000. The company will agree to finance the undertaking itself, and it is understood that the first move in the negotiations will be a request from Mr. Jackson's organization to have the financial standing of his company and its ability to complete the task investigated by a committee representing the City Council. The plans, as thus far announced, differ radically, in one particular at least, from those repeatedly proposed for Chicago, in that the new scheme contemplates subway routes in underground construction all the way from the downtown district to points five to seven miles from the heart of the city, while the older propositions contemplated subways in the business districts only, the surface cars using them, coming to the street level after crossing the river, and, in the case of the south side, after getting beyond the congested business section. Eight loops, it is reported, are proposed in the downtown district, and from these lines are to extend to the south side in Wentworth Avenue, State Street and Cottage Grove Avenue to Seventy-third Street. Southwesterly it is proposed to place a tube in Archer Avenue, and on the west side in four main east and west streets, extending out as far as Fifty-second Avenue. The north side lines in Sedgwick and North Clark Streets would extend to Lawrence Avenue, and the line to the northwest section of the city in Milwaukee Avenue to Fortieth Avenue. The company proposes also to equip the lines and to operate them. It stands ready also to place a municipal ownership option in its contract with the city, so that the latter might acquire the system at any time on terms to be agreed upon.

Proposed Elevated in Philadelphia.—The Philadelphia Suburban Elevated Railroad has filed an application for a charter in Pennsylvania and has announced that it proposes to construct an elevated railroad in Philadelphia. The incorporators are: S. S. Neff, C. W. Haines, John H. Hawkins, Coates Coleman and A. L. Phillips. The officers are: S. S. Neff, president; C. W. Haines, vice-president; F. T. Finch, secretary, and Coates Coleman, treasurer. Edwin O. Lewis is counsel. The company is to have a preliminary capital of \$1,000,000. The main line, according to the plan, is to cover a distance of 20 miles and will consist of a single-track line on Twelfth Street and Thirteenth Street, between Johnson Street in the northern part of Philadelphia and Glenwood Avenue to the north; double track from Twelfth Street and Glenwood Avenue to Wayne Junction, with connections at the North Philadelphia station with the Germantown & Chestnut Hill branch of the Pennsylvania Railroad and a physical connection also at Wayne Junction with the Germantown & Chestnut Hill branch of the Philadelphia & Reading Railroad. The road will also be built to Frankford and at Gray's Ferry physical connection will be made with the Baltimore & Ohio Railroad and the Philadelphia, Washington and Baltimore branches of the Pennsylvania Railroad. The National and American League baseball parks and Fairmont Park will be located along the route of the proposed line. The main terminal will be on Market Street between Twelfth Street and Thirteenth Street, where it is proposed to afford a direct connection with the terminal of the Philadelphia & Reading Railway. The company states that it has also arranged for a physical connection with the Philadelphia & Western Electric Railway and for through service by that company over the elevated railroad to the center of the city. Mr. Neff, the president of the company, is president of the Interstate Engineering & Supply Company, and during his railroad career has been connected with the Pennsylvania Railroad, the Union Loop of Chicago, the Boston Elevated Railway, the Brooklyn Rapid Transit Company, the Mexico Tramways and other roads.

Financial and Corporate

New York Stock and Money Markets

September 8, 1909.

After the holiday the stock market opened lower and uncertain on account of the disquieting reports from the bedside of Mr. Harriman. Before the market opened, London had been actively selling Harriman shares and the first sales in this market were many points below the previous close. On the day's trading there was not much loss, the last sales being about on a par with the first. The sympathetic recessions of outside issues were unimportant. Before the holiday the market had been very dull, but prices were strong with an advancing tendency. Traction stocks have been inactive with small price changes.

The money market continues to be easy with rates practically unchanged. Quotations to-day: Call, 2¼ to 2½ per cent; 90 days, 3¼ per cent.

Other Markets

There has been some renewal of activity in Philadelphia Rapid Transit stock, but very little change in prices. Other shares have been dull.

The active traction shares in the Boston market have been both the issues of Massachusetts Electric. There has been liberal trading in these and prices have advanced sharply. In the case of the preferred there has been a 4-point improvement. Top for each issue was 79 for preferred and 17¾ for common.

The Chicago market has been dull since last report and traction shares have been out of the trading. Chicago Subway has been the only point of interest, and that has been declining. It sold as low as 17½ to-day.

In the Baltimore market, United Railways 4s closed to-day at 88½ and the incomes at 58¾.

In last week's auction of securities in New York, \$1,000 Lexington & Eastern Railway Company 5 per cent bond was sold at 58.

Quotations of various traction securities as compared with last week follow:

	Aug. 31.	Sept. 7.
American Railways Company.....	46	46
Aurora, Elgin & Chicago Railroad (common).....	47½	*47½
Aurora, Elgin & Chicago Railroad (preferred).....	92½	*92½
Boston Elevated Railway.....	129¼	129¼
Boston & Suburban Electric Companies.....	*18	*18
Boston & Suburban Electric Companies (preferred).....	*70	*72½
Boston & Worcester Electric Companies (common).....	a13	a13
Boston & Worcester Electric Companies (preferred).....	a55	a54
Brooklyn Rapid Transit Company.....	78¾	78½
Brooklyn Rapid Transit Company, 1st pref., conv. 4s.....	86¼	86¾
Capital Traction Company, Washington.....	136	a136½
Chicago City Railway.....	a180	a180
Chicago & Oak Park Elevated Railroad (common).....	*3	*3
Chicago & Oak Park Elevated Railroad (preferred).....	*12	*12
Chicago Railways, pteptg, ctf. 1.....	a112	a111
Chicago Railways, pteptg, ctf. 2.....	a38½	a39
Chicago Railways, pteptg, ctf. 3.....	a26	a26
Chicago Railways, pteptg, ctf. 4s.....	a10	a10½
Cleveland Railway.....	*78	*78
Consolidated Traction Company of New Jersey.....	a77½	a77½
Consolidated Traction of N. J., 5 per cent bonds.....	a106½	a106½
Detroit United Railway.....	69¼	a75
General Electric Company.....	169½	166
Georgia Railway & Electric Company (common).....	a94½	*94½
Georgia Railway & Electric Company (preferred).....	a88	*87
Interborough-Metropolitan Company (common).....	14¾	14¼
Interborough-Metropolitan Company (preferred).....	47	46½
Interborough-Metropolitan Company (4½s).....	83½	82½
Kansas City Railway & Light Company (common).....	a48	a48
Kansas City Railway & Light Company (preferred).....	a82	a82
Manhattan Railway.....	140	a143½
Massachusetts Electric Companies (common).....	15½	16½
Massachusetts Electric Companies (preferred).....	74½	78
Metropolitan West Side, Chicago (common).....	a18	a18
Metropolitan West Side, Chicago (preferred).....	a50	a50
Metropolitan Street Railway.....	a24	a24
Milwaukee Electric Railway & Light (preferred).....	*110	*110
North American Company.....	83	83¼
Northwestern Elevated Railroad (common).....	a20	a20
Northwestern Elevated Railroad (preferred).....	a71	a71
Philadelphia Company, Pittsburg (common).....	47½	48
Philadelphia Company, Pittsburg (preferred).....	44	a44½
Philadelphia Rapid Transit Company.....	30½	30
Philadelphia Traction Company.....	90½	91¼
Public Service Corporation, 5 per cent col. notes.....	a100¼	a100¼
Public Service Corporation, ctf. s.....	a93½	a94
Seattle Electric Company (common).....	115	*114½
Seattle Electric Company (preferred).....	107	107
South Side Elevated Railroad, Chicago.....	*56	54½
Toledo Railways & Light Company.....	*10½	a10¼
Third Avenue Railroad, New York.....	23¼	22
Twin City Rapid Transit, Minneapolis (common).....	108¼	109
Union Traction Company, Philadelphia.....	54	54
United Railways & Electric Company, Baltimore.....	13	a13¼
United Railways Inv. Co., San Francisco (common).....	38½	a41
United Railways Inv. Co., San Francisco (preferred).....	59	62
Washington Railway & Electric Company (common).....	44½	a47
Washington Railway & Electric Company (preferred).....	90½	a92
West End Street Railway, Boston (common).....	96	97¾
West End Street Railway, Boston (preferred).....	106½	106½
Westinghouse Electric & Manufacturing Company.....	86	85
Westinghouse Elec. & Mfg. Co. (1st pref.).....	130.	a140

aAked.

*Last sale.

Investigation of Bridge Operating Company

The Public Service Commission of the First District of New York, as noted on page 332 of the ELECTRIC RAILWAY JOURNAL of Aug. 28, 1909, recently approved the proposed transfer of the stock of the Bridge Operating Company by the receiver of the New York City Railway to the receivers of the Metropolitan Street Railway. At the same time the commission ordered an investigation of the affairs of the Bridge Operating Company. This investigation was begun with a hearing by the commission on Aug. 31, with Milo R. Maltbie of the commission presiding and H. M. Chamberlain as counsel.

Edwin W. Winter, president of the Brooklyn Rapid Transit Company; C. D. Meneely, secretary and treasurer of that company, and G. I. Hunt, auditor of the Bridge Operating Company, were sworn by the commission as witnesses on Aug. 31. Mr. Meneely testified largely regarding the organization and history of the company, and presented a statement showing how the capital had been expended. He said that 20 cars had been purchased at a cost of \$72,632; that a terminal had been erected in Brooklyn at a cost of \$1,003 and that \$27,021 had been expended on the track and roadway. This totaled \$100,656. He said that the Bridge Operating Company was managed by the Brooklyn Rapid Transit Company, through its operating company, the Brooklyn Heights Railroad, and that the Brooklyn Heights Railroad accounted to the New York City Railway as joint owner of the stock of the Bridge Operating Company.

Mr. Winter volunteered a statement regarding the desire of the city and the hesitancy of his company to operate cars on the Williamsburgh Bridge. The Bridge Operating Company, Mr. Meneely has sworn, did not own any trackage although there was a charge of \$27,000 for that item. President Winter explained this by saying that during the early days of the company the city changed its plan for trackage and that his company upon the request of the city administration paid for two temporary terminals before the final terminal was installed. He said that he thought his company had been weak when it consented to do this. He recalled a meeting in the Mayor's office in 1904, which he and H. H. Vreeland, president of the Metropolitan Street Railway, attended, and said that the Mayor was very anxious to have the cars cross the bridge. He said he regarded the profits of the Bridge Operating Company as only one item of bridge operation, and that all through the lines were run at a loss. The local business is the only one that pays. He declared that his company had lost \$5,500,000 by running its cars over the Brooklyn Bridge up to Dec. 31, 1908.

G. I. Hunt, the auditor of the Bridge Operating Company, was the next witness. He was asked to explain in detail a voucher put in by the New York City Railway for \$14,000 worth of work. The voucher was not itemized, and Mr. Hunt was unable to recall the details. The hearing will be continued.

Geo. D. Yeomans, of counsel for the Brooklyn Rapid Transit Company, filed a statement with the commission in which he said: "Although we are ignorant of the proceeding in which the Public Service Commission desires to look into the Bridge Operating Company and its affairs, we wish to have it appear upon the record that the Bridge Operating Company, through its attorneys, denies that the Public Service Commission, First District, State of New York, has any jurisdiction over the Bridge Operating Company or its affairs, and reserves the right to raise the question of jurisdiction in this or any subsequent proceeding."

"Considering the results of the operation of all the lines of the Brooklyn Rapid Transit system and the Metropolitan Street Railway system, which is now operated in place of the New York City Railway, in connection with the operation of the Bridge Operating Company's cars on the Williamsburgh Bridge, and crediting to the companies of the Brooklyn Rapid Transit system and to the Metropolitan Street Railway system the amounts received by each as the profits arising from the Bridge Operating Company's operation, amounting to a total of about \$100,000 per annum, there is a net loss to the companies of the Brooklyn Rapid Transit system of over \$200,000, and to the Metropolitan Street Railway of over \$100,000 per annum."

Merger of Subsidiary Companies in San Francisco

The Railroad & Power Company of Maine was recently incorporated as an additional step in the general plan for the perfection of the street railway system of San Francisco. The new company is to be the holding company for the Stanislaus Power & Development Company and the San Francisco Electric Railways, which is to acquire and

operate street railways in San Francisco, and will also hold \$10,000,000 of the \$18,000,000 of common stock of the United Railroads of San Francisco, which will be sold to it by the United Railways Investment Company. The Stanislaus Power & Development Company is to acquire the properties of the Stanislaus Electric Power Company and the Tuolumne Water Power Company under a plan of reorganization, which provides for the issuance of a first mortgage on the property to furnish funds for the acquisition and completion of the plant and transmission lines and the payment of existing obligations, and also an issue of \$6,000,000 second mortgage 5 per cent bonds to be exchanged for the \$6,000,000 first mortgage bonds of the Stanislaus Electric Power Company.

In 1910 the Stanislaus Power Development Company will, it is believed, be in a position to deliver power to the United Railroads, and it is expected that when the property has been fully developed there will be a large amount of surplus power to sell. At the annual meeting of the stockholders of the United Railways Investment Company in May, 1909, there was authorized \$10,000,000 of new preferred stock, \$1,000,000 of which, together with \$1,000,000 of the common, was to be issued in exchange for the stock of the Stanislaus Power & Development Company, increasing the common stock outstanding to \$20,400,000 and the preferred to \$16,000,000. The stock of the Stanislaus Power & Development Company thus acquired will be turned over to the Railroad & Power Development Company.

The Railroad & Power Company of Maine will finance whatever power and electric railway development may eventually be undertaken by the United Railroads. The Stanislaus Power Company and the San Francisco Electric Railways, which took over the Parkside Transit Company, will be absorbed by the Railroad & Power Company. All development of power and any extensions which may eventually be decided upon will be taken care of by the new company.

The Union Trust Company, of San Francisco, has filed for record a mortgage for \$10,000,000, executed in its favor by the San Francisco Electric Railways. The Union Trust Company is to dispose of bonds, or such portions as may be needed for the construction and extension of the Parkside Railway. It is said it is proposed to build the line to San Mateo and possibly to Santa Clara County.

Another link in the chain of corporations is the Sierra & San Francisco Power Company, which was incorporated in May, 1909, to be merged with the San Francisco Electric Railway Company. The Sierra & San Francisco Power Company purchased the Stanislaus Electric Power Company as a basis of the merger for \$6,000,000. That represented the settled value of the water rights, reservoir sites and possibilities of the property, which was not extensively developed. To this initial expense there will be applied for development purposes an issue of bonds in the sum of \$10,000,000. The local auxiliary plants to be joined under the general designation of the Sierra & San Francisco Power Company will increase the value of the property to \$20,000,000, the sum at which the new concern was capitalized.

Receiver for Metropolitan Securities Company

On Feb. 11, 1909, William W. Ladd, receiver of the New York City Railway, secured a judgment from the United States Circuit Court against the Metropolitan Securities Company for \$5,271,582. The Circuit Court of Appeals subsequently confirmed this judgment. In proceedings supplementary to the execution of this judgment, Judge Holt, of the United States Circuit Court on Sept. 2 appointed S. Sidney Smith temporary receiver of the Metropolitan Securities Company, and fixed Sept. 14 as the date for hearing the application to make the receivership permanent.

United States Marshal Henkel, on a return filed with the court on Sept. 1, 1909, stated that he was unable to find any property of the Metropolitan Securities Company in the judicial district, but Receiver Ladd, in the supplementary complaint, tells of properties placed in his possession by the defendant on April 12, 1909, as judgment pending the hearing upon the writ of error by the Circuit Court of Appeals. He says under stipulation that the Metropolitan Securities Company deposited with him \$1,027,500 in cash on which the interest has accrued, making the total at the date of the entry of the order upon the mandate of the higher court \$1,031,738; also, that the Metropolitan Securities Company further deposited with him as additional security certain securities of practically no value and a few securities which have some market value; and two promissory notes. One of the notes, he said, was made by the Third Avenue Railroad for \$107,100 and the other made by the New York City Railway to the Metropolitan Securi-

ties Company on which the Metropolitan Securities claims \$234,000 was advanced.

Mr. Ladd informed the court that he had brought a suit on his own behalf as judgment creditor of the Metropolitan Securities Company against the Interborough-Metropolitan Company, and other stockholders of the defendant company, liable under the statutes of the State of New York to an amount equal to that unpaid on the defendant company's capital stock, approximately \$7,500,000.

The Interborough-Metropolitan Company has issued a statement in which it says:

"The appointment of a receiver for the Metropolitan Securities Company is ancillary to the judgment recently affirmed by the United States Circuit Court of Appeals in the suit of Ladd, receiver of the New York City Railway, against the Metropolitan Securities Company and has been expected. It does not change the situation so far as the Interborough-Metropolitan Company is concerned or in any wise affect the Interborough Rapid Transit Company, which operates the subway and elevated systems. The Metropolitan Securities Company is simply the holding company of the stock of the New York City Railway. The Interborough-Metropolitan Company is a stockholder in the Metropolitan Securities Company. The question as to whether further appeal will be granted from the judgment as a result of which the present receiver of the Metropolitan Securities Company has been appointed is one that will be considered shortly by the courts."

Report of Interborough Rapid Transit Company for Year Ended June 30, 1909

In applying to the New York Stock Exchange to list additional bonds, the Interborough Rapid Transit Company, New York, furnished a statement of earnings for the year ended June 30, 1909. This statement compared with the report to the Public Service Commission of New York for the First District for the year ended June 30, 1908, follows:

	Year ended June 30 1909	1908
Total earnings from railway.....	\$25,775,392	\$24,699,505
Total railway operating expenses.....	10,747,443	10,722,695
Taxes accrued	1,799,807	1,586,466
Operating income	\$13,228,142	\$12,390,344
Other income	1,384,644	579,965
Total net income.....	\$14,612,786	\$12,970,309
Interest on funded debt.....	10,010,750	1,250,000
Rentals	8,011,665
Amortization of debt, disc't & exp.....	12,213	7,984
Dividends on stock, 9 per cent.....	3,150,000	3,150,000
Balance, surplus over dividends.....	\$1,439,823	\$550,660

Albany & Hudson Railroad, Hudson, N. Y.—The Public Service Commission of the Second District of New York has approved the plan and agreement for the reorganization of the Albany & Hudson Railroad submitted by ex-Governor Myron T. Herrick of Ohio; Clinton L. Rossiter, vice-president of the Long Island Loan & Trust Company, and R. A. C. Smith, president of the American Mail Steamship Company, a reorganization committee representing a large number of stockholders and bondholders of the company. The plan of reorganization provides for the issuance of \$2,100,000 preferred and \$1,275,000 common stock to be exchanged for the present outstanding stocks and bonds. The new company also asked for authority to issue a mortgage of \$1,500,000, the greater portion of which is to be used in double tracking the road between Rensselaer and Kinderhook and the purchase of the bridge connecting Albany and Rensselaer.

Chicago, Aurora & DeKalb Railroad, DeKalb, Ill.—William Forkell & Company, Chicago, Ill., are offering at par and interest \$200,000 first mortgage 5 per cent gold bonds of the Chicago, Aurora & DeKalb Railroad dated Sept. 1, 1909, and due Sept. 1, 1929, but redeemable at par and interest on any interest date. The American Trust & Savings Bank, Chicago, is trustee under the mortgage securing the bonds. The bonds are issued to provide funds to equip with electricity the company's line between Aurora and DeKalb, 31 miles distant.

Columbus, Delaware & Marion Railway, Columbus, Ohio.—The creditors' committee of the Columbus, Delaware & Marion Railway, consisting of Guy M. Walker, New York; N. S. Keith, Cincinnati, and W. H. Netherland, Louisville, has prepared a trust agreement under which the holders of claims against the company and against John G. Webb, president of the Columbus, Delaware & Marion Railway, agree in consideration of Mr. Webb's assignment of all his property to the committee as trustees to deposit their claims with the Cincinnati Trust Company as depository and give the committee full authority to take at its discre-

tion whatever action may be necessary to preserve the equities in the railway.

Geneva, Waterloo, Seneca Falls & Cayuga Lake Traction Company, Seneca Falls, N. Y.—The Geneva, Waterloo, Seneca Falls & Cayuga Lake Traction Company has been authorized by the Public Service Commission of the Second District of New York to execute to the West End Trust Company, Philadelphia, a mortgage of \$2,500,000 under the corporate name of Geneva & Auburn Railway. The corporation is authorized to issue at present \$500,000 of 5 per cent 30-year bonds, to be sold at not less than 90. Of this amount \$400,000 is to be used for the discharge of outstanding bonds and \$100,000 for improvements and the acquisition of property. It is proposed to build an extension to Cayuga Lake.

Kingston (N. Y.) Consolidated Railroad.—Application has been made to the Public Service Commission of the Second District of New York by the Kingston Consolidated Railroad for permission to make a new mortgage to the Manhattan Trust Company, New York, as trustee, to secure an issue of \$250,000 bonds, of which \$75,000 is to be issued at once and the remainder reserved for future requirements.

Montgomery County Rapid Transit Company, Norristown, Pa.—The Bankers' Corporation, Philadelphia, on Aug. 24 filed a bill of equity asking the court to sell the 8-mile electric railway between Trooper and Skippack operated by the Montgomery County Rapid Transit Company, Norristown, to satisfy the bondholders. The bill states that the company has defaulted in the payment of interest on bonds secured by a \$500,000 mortgage. The road is now in the hands of two receivers, Daniel M. Anders and Henry J. Farquhar.

Philadelphia (Pa.) Rapid Transit Company.—At the annual meeting of stockholders of the Philadelphia Rapid Transit Company, which is to be held on Sept. 15, directors will be elected for the ensuing four years. The proposed change, making the rental under lease of the Lehigh Avenue Railway equal to 6 per cent on the stock, will be considered. Requests for proxies were sent out by Secretary R. B. Selridge. The transfer books will close Aug. 15 at 3 p. m. and reopen Sept. 16 at 10 a. m.

Public Service Corporation of New Jersey, Newark, N. J.—Thomas N. McCarter, president of the Public Service Corporation of New Jersey, has announced that in pursuance of the policy of the company of segregating its various interests as far as may be desirable, it has been determined to transfer control of all the gas companies owned and controlled to one company, the Public Service Gas Company, with \$10,000,000 authorized stock as a holding company. Some two years ago all the railway properties in any way controlled by the Public Service Corporation were either merged into or leased to the Public Service Railway, a corporation the capital stock of which is nearly all held by the Public Service Corporation.

Railways Company General, New York, N. Y.—The directors of the Railways Company General have declared a dividend of 10 per cent, payable on Sept. 15 to stock of record on Aug. 31. This is the initial dividend on the stock of the company. The official statement of the company regarding the dividend follows: "Believing that the Railways Company General is now in a position to declare regular dividends, the committee recommends to the board of directors that they declare a cash dividend of 10 per cent out of profits and that they announce the policy of declaring quarterly dividends of 1 per cent beginning with the quarter ending Sept. 30, 1909, with a further division at the end of each fiscal year of such portion of the profits as seems advisable."

Second Avenue Railroad, New York, N. Y.—Judge Lacombe of the United States Circuit Court has handed down an order granting the application made by Davies, Stone & Auerbach, solicitors for the Guaranty Trust Company, and Quigg, Baldwin & Pierce, counsel for the Second Avenue Railroad, for an extension of time for the taking of testimony in the foreclosure proceedings brought by the Guaranty Trust Company until Nov. 9, 1909. The complainant is allowed until Sept. 9, 1909, for the taking of testimony, the defendant until Oct. 9, and the complainant from that time until Nov. 9, 1909, to take testimony in rebuttal.

Tarrytown, White Plains & Mamaroneck Railway, White Plains, N. Y.—Sutro Brothers & Company announce that bondholders of the Tarrytown, White Plains & Mamaroneck Railway who have not availed themselves of the offer of Sutro Brothers & Company to exchange their bonds under the plan outlined previously by the firm will be given an opportunity up to and including Sept. 12 to make such exchange. The sale under foreclosure of the property

and franchises of the Tarrytown, White Plains & Mamaroneck Railway will take place on Sept. 17.

Union Railway, Gas & Electric Company, New York, N. Y.—Babcock, Rushton & Company, Chicago and New York, offer for subscription at 95 and interest the 5 per cent bonds of the Union Railway, Gas & Electric Company to yield 5.34 per cent. The Union Railway, Gas & Electric Company controls the street railway and interurban lines, gas, electric lighting, power and heating property in Springfield, Peoria, Rockford, Freeport and Belvidere, Ill.; Evansville, Ind., and Beloit and Janesville, Wis.

Western Ohio Railway, Lima, Ohio.—Arrangements have been made with Hayden, Miller & Company, Cleveland, Ohio, by the Western Ohio Railway for the issue of \$360,000 of three-year notes bearing 6 per cent interest to liquidate part of the floating debt of the company. The notes are secured by \$500,000 of first mortgage bonds, 2700 shares of preferred stock and 5000 shares of common stock. The company will create a sinking fund of \$1,000 a month for the first year, \$1,500 a month the second and \$2,500 a month the third year to retire the notes.

Yonkers (N. Y.) Railroad.—The Public Service Commission of the Second District of New York has authorized Leslie Sutherland, receiver of the Yonkers Railroad, to issue \$65,000 of 6 per cent two-year receiver's certificates, in order to discharge or refund the certificates issued in 1908.

The attempt at public utility legislation at the session of the Connecticut Legislature recently closed failed, and the prospects are that the matter will reappear as the foremost issue of next year's campaign. During the session the progress of events in connection with this matter was noted from time to time in the *ELECTRIC RAILWAY JOURNAL*, but the extraordinary proceedings which marked the entire consideration of this matter justify a review of the proceedings, especially as the subject was reconsidered after the judiciary committee had rejected the measure originally introduced. Governor Woodruff began the agitation to establish a commission in 1907, urging the appointment of a body to succeed the railroad commission, with increased powers. Toward the end of the session he threatened to call an extra session should the Legislature refuse to act, but compromised on a committee of five to draft a bill to be presented in 1909. The bill proposed by this body substituted for the railroad board a commission of five men with salaries of \$5,000 each with jurisdiction over gas, electric, railroad, electric railway, express, telephone and water companies. This bill was introduced, and, as previously noted, the judiciary committee reported it unfavorably to the lower house. But the lower house was unwilling to accept the finding of the committee, and the bill was referred to a special joint committee by both houses. A majority and a minority report followed. The former approved a bill drawn by Senator Barnum. This proposed that the Railroad Commission be retained vested with its present authority, but provided for a separate body to supervise the electric light, telephone and water companies. The minority measure was quite drastic. It provided for a commission of five members with salaries of \$4,000 each and would have abolished the Railroad Commission. One member of the commission was to be a lawyer and another a civil engineer of standing. Under the terms of this bill reports were to be made to the State by all the companies within the jurisdiction of the act, and the commission was to supervise issues of securities. On Aug. 3 the Senate passed the Barnum bill by three votes, a motion to substitute the minority bill being defeated by one vote. On Aug. 5 the matter came before the House, which refused to amend the bill passed by the Senate by striking out all after the enacting clause and substituting for it the minority bill of the select committee on public utilities, by the close vote of 104 to 103. Before further action was taken the House adjourned and final action on the matter was thus postponed. On Aug. 10 the House refused by 117 votes to 113 to substitute an amended Whiton-Chandler bill for the Barnum bill on public utilities, and then indefinitely postponed the Barnum bill itself, thus effectually blocking further progress.

Attorney-General O'Malley of New York has secured from Governor Hughes the appointment of two extraordinary special terms of the Supreme Court in the Sixth and Seventh Judicial districts to determine the pending certiorari proceedings to review special franchise tax assessments involving about \$41,000,000 in unpaid taxes. One is to be held by Justice Conan of Morrisville at Binghamton, beginning Oct. 11, and the other by Justice Sutherland of Rochester at Canandaigua, beginning Oct. 12.

Traffic and Transportation

Air Brakes Compulsory Only on New Cars in Milwaukee

The Railroad Commission of Wisconsin in a letter addressed recently to Jos. P. Carney, an Alderman of Milwaukee, intimates that any attempt to force the Milwaukee Electric Railway & Light Company to equip its cars now in service with air brakes would not stand the test of reasonableness in the courts if attacked by the company. It is stated now that sentiment is increasing among the Aldermen that the offer of John I. Beggs, president of the Milwaukee Electric Railway & Light Company, to equip cars with air brakes in accordance with his letter to Edward Hinkel, city clerk, should be accepted in the same broad spirit in which the offer was made. The letter of the commission to Mr. Carney follows in full:

"Your letter of Aug. 18 arrived in the absence of Prof. Meyer, which will explain its not having been answered more promptly.

"We note what you have to say regarding the proposed franchise to be granted the Milwaukee Electric Railway & Light Company, and have to say that Chapter 310, of the laws of 1909, requires street railway companies to equip cars weighing over 40,000 lb. with air brakes of modern design, to be approved by the commission. Other cars may be required to be equipped with such brakes upon order of the commission. At the time the order referred to in your letter was made it was deemed advisable, under the testimony, to limit the order to new cars. Anything beyond this, under the showing made, might have exceeded the limit of reasonableness within the law and met with reversal in the courts.

"Of course, there is nothing to prevent the company from equipping all its cars according to the proposed amendment, but if the company should decline the franchise with such condition attached, the improvement of the service suggested by the engineers of the commission could not be enforced. Unless the company will accede to the demand it would seem that the general public interest would be promoted by granting a franchise which would result in as early relief of the congestion in traffic as practicable, and if the air brakes desired are indispensable to the operation of the cars with reasonable safety, that matter could be submitted to the commission for determination. Of course, all requirements of the commission in the matter would have to stand the test of reasonableness in the courts if attacked by the company. Unless the situation were materially different from what it was according to the testimony upon the former hearing, no further requirements would be ordered.

"The Legislature has provided by general law for the equipment of street cars with air brakes, which seems adequate to meet any situation and to protect the public when necessity for such equipment arises. It would seem, under the circumstances, that the public interest requires that the company proceed to execute the proposed plans of bettering the service without unnecessary delay. As the general law is broad enough to safeguard the public in the matter of air brakes and other safety appliances when necessity demands their installation, no amendment to the franchise, designed to accomplish what may be accomplished under the general law if necessary, ought to be made which can be used as a pretext for failure to act on the part of the company.

"The matters of service and rates are subject to regulation at all times and franchise provision can not stand in the way of commission requirement, the adoption of new devices for the protection of the public at any time in the future.

"As a general proposition it is not wise to attempt to deal with railroad operations for definite periods by contract, as, in the progress of the art, new inventions bring about radical changes in the cost of transportation and methods and safety of operation. The general law is framed to meet the conditions as they arise, and the company may be required to adopt modern appliances from time to time as public convenience and safety may require. This feature of the law is certainly commendable."

Attempt to Enforce Blue Law Against Sunday Operation in Eau Claire, Wis.

The Common Council of Eau Claire, Wis., passed a resolution recently requesting the chief of police and the sheriff of the county to enforce the famous "blue law" of the State prohibiting all kinds of labor except works of necessity or charity. This action of the Council was prompted by the fact that the so-called "lid" has been enforced on all the saloons recently, so far as opening on Sunday is concerned.

This enforcement was begun last winter as a result of the agitation for no license at the spring election in Eau Claire, and so much feeling was stirred up against the saloons, all of which had been open all day on Sunday for many years, that the Council passed a resolution requesting the police of the city to enforce the Sunday law, which forbids the opening of saloons on Sunday. At the April election the city voted for license by a large majority and since then the saloons have endeavored, without success, to persuade the mayor and police to close their eyes to the Sunday opening of the saloons. Having failed in these efforts, it is understood that the saloon interests used their influence with a majority of the Common Council to pass a resolution requiring the strict enforcement of the Sunday closing law which was passed by the Legislature of 1856 and has been a dead letter in the State most of the time since. Apparently the idea was that if the enforcement of this obnoxious law could be secured, there would be such a sharp reaction in the other direction that public sentiment would consent to the opening of saloons as heretofore.

However, the passage of this resolution by the Common Council calling upon the police and sheriff to enforce the "blue law" strictly, created a reaction in the direction least expected by the saloon interests. Public sentiment was overwhelmingly against it and the Council was made the butt of newspaper ridicule. Under instructions from the police and fire commissioners the police publicly made the announcement that they would do nothing to enforce the law. The sheriff of the county took the view that as a county officer he was not expected to follow the instructions of any City Council and if any element in the county wanted the enforcement of the strict Sunday law the proper course was for the citizens to swear out warrants on the day following the violation of the law. The result of this decision on the part of the police and sheriff was that the resolution of the Council was completely ignored and street cars were operated as usual, and restaurants, cigar stores and ice-cream parlors were open as heretofore. The net result of the Council's action therefore is to leave the situation exactly as it was before, except that public sentiment is more strongly in favor, than heretofore, of the strict enforcement of the Sunday closing law in regard to saloons.

Trail Cars in Philadelphia.—The Philadelphia Rapid Transit Company put trail cars in operation on the Thirteenth and Fifteenth Streets line on Sept. 1. On Oct. 1 it is intended to place trail cars more generally in service.

Temporary Trolley-Railroad Crossing Authorized.—The Public Service Commission of the Second District of New York has authorized a temporary crossing of the Huntington Railroad over the tracks of the Long Island Railroad at Farmingdale at grade. The crossing is made, however, subject to the condition that a change may be ordered at the pleasure of the commission.

Express and Freight Service of the Washington, Baltimore & Annapolis Electric Railway.—Under the arrangement which has been made by the Washington, Baltimore & Annapolis Electric Railway with the Electric Express Company for the transaction of freight and express business, for the immediate present less than carload shipments only will be handled from Baltimore, but arrangements are now being made whereby cars will be handled in and out of Baltimore. Under the contract between the railroad company and the electric company, express and freight cars will be run over the lines of the railway, and will also use the baggage compartment cars for package and express business. There will be service every two hours for package and light freight business between Baltimore and Washington, and 11 trains daily in and out of Annapolis for Washington and Baltimore.

Seats for Motormen in Connecticut.—The act passed at the recent session of the Legislature of Connecticut requiring that seats be provided for motormen will go into effect on Oct. 1, 1909. The measure as passed follows: "Section 1. Every company owning or operating a street railway in this State shall cause each of its cars having an air brake, and when running outside the territorial limits of any city or borough, to be provided with a seat or stool for the use of the motorman operating such car or the person having the motive power of the same under control; provided, that the railroad commissioners may except from the provision of this act any line or parts of a line or any cars of such a company if, after public hearing, they shall find that the presence of such seats upon such line, part of a line, or cars would endanger or inconvenience any person or persons traveling or being legally upon such lines or cars. Sec. 2. Any company owning or operating any such car which shall neglect or refuse to cause the same to be provided with a seat or stool for the use of the motorman operating the same or the person having the motive power of such car under control, shall forfeit to the State \$25 for each day of such neglect or refusal."

Personal Mention

Mr. August Westermeyer, auditor of the Sheboygan Light, Power & Railway Company, Sheboygan, Wis., has been elected treasurer of the company to succeed Mr. Ernest Gonzenbach, who has become president and general manager of the company. Mr. Westermeyer has been connected with the company for eight years. He entered the employ of the company as clerk and was promoted step by step to his present position. He is a native of Sheboygan and is 31 years old.

Mr. J. W. Tompkins, superintendent of the Lafayette division of the Ft. Wayne & Wabash Valley Traction Company, Ft. Wayne, Ind., has been appointed superintendent of the interurban division of the company, vice Mr. M. E. Emerson, resigned; Mr. S. J. Ryder, superintendent of the Logansport division of the company, has been appointed superintendent of the Lafayette division, vice Mr. J. W. Tompkins, transferred, and Mr. I. A. Battenberg, chief dispatcher of the Bluffton division, has been appointed superintendent of the Logansport division, vice Mr. S. J. Ryder, transferred.

Mr. E. G. Connette, who retired on Sept. 1 as general manager of the Worcester (Mass.) Consolidated Street Railway to become chief of the transportation department of the Public Service Commission of the First District of New York, was tendered a farewell reception at his office in Worcester on Aug. 28, by the employees of the company. During the afternoon a committee of the men, with Mr. George W. Dunlop, superintendent of power of the company, as chairman, presented Mr. Connette with a pair of diamond-studded gold cuff links emblematic of the Mystic Shrine, of which Mr. Connette is a member, as a token of esteem.

Mr. John A. Cleveland, superintendent of new business of the electric lighting companies in Saginaw and Bay City, Mich., has been appointed manager of the Bay City Traction & Electric Company and the Bay City Gas Company, and not the general manager of the Saginaw Valley Traction Company, as stated in last week's issue of the *ELECTRIC RAILWAY JOURNAL*. Mr. J. F. Collins is general manager of the Saginaw Valley Traction Company as well as of the Bay City Traction & Electric Company, the Bay City Gas Company, the Bartlett Illuminating Company and the Saginaw City Gas Company. In his new position Mr. Cleveland succeeds Mr. J. A. Cunningham, who resigned as of Sept. 15 to give attention to his personal interests, and will remove to Henderson, Ky.

Mr. Carl A. Sylvester has been appointed general manager of the properties of the Boston (Mass.) Suburban Electric Companies, comprising the electric railways in the Newton, Waltham, Lexington, Wellesley and Natick districts at the west of Boston, to succeed Mr. Matthew C. Brush, who, as announced in the *ELECTRIC RAILWAY JOURNAL* of Aug. 21, has been appointed general manager of the Buffalo & Lake Erie Traction Company. For the last three years Mr. Sylvester has been assistant general manager of these properties in close association with Mr. Brush. Mr. Sylvester was born in Newton Centre, Mass., received a public school education in his native city, and was graduated from Harvard College in 1902. He immediately entered the employ of the Newton system of street railways and worked in the shops and in the operating and construction department, with power station service in addition. He was made assistant general superintendent of the Boston Suburban Electric Company in 1903 and later entered the general offices of the company in connection with the purchasing of supplies and as acting paymaster. He then became clerk to the president, and in 1904 was made assistant to the general manager, receiving the title of assistant general manager in 1906. Mr. Sylvester is a member of the New England Street Railway Club. He will assume his new duties about Oct. 1, having jurisdiction over the Newton & Boston Street Railway, Lexington & Boston Street Railway, Middlesex & Boston Street

Railway, Norumbega Park, Lexington Park and the Suburban Manufacturing Companies.

Mr. Ernest Gonzenbach has been elected president of the Sheboygan Light, Power & Railway Company, Sheboygan, Wis., to succeed the late Dr. F. A. C. Perrine. Mr. Gonzenbach was formerly vice-president and treasurer of the company. His present title is president and general manager. He has resigned as treasurer of the company, and Mr. August Westermeyer, heretofore auditor of the company, has been elected to succeed him as treasurer. Mr. Gonzenbach was elected president of the company as a mark of appreciation of the results attained by him in his former offices. For five years, or ever since he became connected with the company, Mr. Gonzenbach has handled the physical, political and financial situations practically alone. During his term of service with the company the gross earnings have almost doubled and the net earnings have more than trebled. Mr. Gonzenbach's election to the presidency will not mean any change in the policy or personnel of the company beyond that mentioned in the case of Mr. Westermeyer. A portrait and biographical sketch of Mr. Gonzenbach were published in the *ELECTRIC RAILWAY JOURNAL* of Jan. 30, 1909, following his election as president of the Northwestern Electrical Association.

Mr. Matthew C. Brush, whose resignation as vice-president and general manager of the properties controlled by the Boston Suburban Electric Companies to become general manager of the Buffalo & Lake Erie Traction Company, the Jamestown, Chautauqua & Lake Erie Railroad, the Chautauqua Steamship Company and the Lackawanna Traction Company, with headquarters in Buffalo, to take effect about Oct. 1, was noted on page 304 of the *ELECTRIC RAILWAY JOURNAL* of Aug. 2, 1909, is one of the most widely known electric railway executive officers in the East, and is a past president of the New England Street Railway Club. He was born in Stillwater, Minn., and was graduated from the Armour Institute in 1897, and from the Massachusetts Institute of Technology in 1901 with the degree of M.E. After serving in various capacities for several years with the Union Pacific Railroad and the Chicago, Burlington & Quincy Railroad, Mr. Brush joined the staff of the Boston Suburban Electric Companies in 1904 as assistant to the president. At that time these organizations consisted of nine street railways, two parks and a gas company. Within eight months Mr. Brush was appointed general manager of the Newton Street Railway, the Newton & Boston Street Railway, the Lexington & Boston Street Railway, the Westboro & Hopkinton Street Railway and the Norumbega Park Company. In the fall of 1905 he was appointed vice-president and general manager and later a director of these properties, and in 1906 received the same title in the organization of the Suburban Manufacturing Company, which was formed to build a large concrete power station at Waltham at a cost of about \$300,000. Mr. Brush's work since he has been connected with the Boston Suburban Electric Companies has been characterized by constant efforts to place the allied properties on a sound and comprehensive operating basis, and the companies are now a strong centralized group from the operating as well as the financial standpoint. A feature of the administration has been co-operative publicity, combined with a policy of meeting employees and the public and removing all possible causes of misunderstanding. Aside from improving the schedules, and the quality and punctuality of the service, Mr. Brush carried through successfully the first campaign to secure 6-cent fares in a large way on any New England system, and it is significant that at the latest hearing before the Massachusetts Railroad Commission, when the company petitioned the commission for authority to continue the charge of one cent per transfer, no one appeared in opposition. A noteworthy accomplishment of the administration was described in the *ELECTRIC RAILWAY JOURNAL* of June 26, 1909, page 1152, in connection with the rebuilding of the Norumbega Park Theatre in eight days after its destruction by fire. Mr. Brush is a member of Newton Club, Fales Club, Waltham Business Men's Association, a Delta Kappa Upsilon past president, and associate member of the American Street & Interurban Railway Association.



M. C. Brush



C. A. Sylvester

Construction News

Construction News Notes are classified under each heading alphabetically by States.

An asterisk (*) indicates a project not previously reported.

RECENT INCORPORATIONS

***Indiana Northwestern Traction Company, Indianapolis, Ind.**—Incorporated to construct an electric railway from Hammond to Lafayette via intermediate towns. The company will carry on both a freight and passenger business. Headquarters, Monticello. Capital stock, \$50,000. Directors: William Buckner, C. D. Meeker, Jacob D. Timmons, Monticello; Geo. W. Goff, Rensselaer, and Geo. A. Haskell, Chicago, Ill.

***Tippecanoe & Monticello Interurban Railway, Monticello, Ind.**—Incorporated in Indiana to construct and operate a system of interurban railways to connect Fowler, Lafayette, Battle Ground, Ash Grove, Delphi, Brookston, Chalmers, Wheeler, Reynolds, Monticello, Norway, Idaville, Burnettsville, Buffalo and Logansport. Headquarters, Monticello. Capital stock, \$100,000. Incorporators: Thos. W. O'Connor, Willis White, Monticello; Chas. E. Turner, Detroit, Mich.; Jos. A. C. Blackburn, and Wm. B. Felker, Rogers, Ark.

***Philadelphia & Suburban Elevated Railroad, Philadelphia, Pa.**—Application has been made by this company for a charter to build an elevated electric railway in Philadelphia on Twelfth and Thirteenth Streets and with connections to cover a distance of 20 miles. The main terminal of the proposed elevated railway is to be on Market Street, between Twelfth Street and Thirteenth Street. Capital stock, \$1,000,000. Incorporators: S. S. Neff, president; Casper W. Haines, vice-president; Coates Coleman, treasurer; J. H. Hawkins and A. L. Phillips.

FRANCHISES

Santa Barbara, Cal.—The City Council has granted to the Santa Barbara Consolidated Railway a franchise to extend its Oak Park line from Fourth Street to Oak Park.

San Diego, Cal.—The Board of Park Commissioners has granted to the San Diego, El Cajon & Escondido Electric Railway a permit to operate an electric railway through the City Park. The permit forbids freight transportation in the park. [E. R. J., Sept. 4, '09.]

***Marshalltown, Ia.**—H. W. Darling, Chicago, Ill., is said to have applied to the City Council for a street railway and lighting franchise.

***Battle Creek, Mich.**—H. C. Hawk, representing the Post Land Company, has applied to the Board of Supervisors for a franchise permitting the construction and operation of an electric railway through its property just west of the city in Battle Creek township. The line is intended to be a loop about 6 miles in length.

St. Louis, Mo.—The County Court of St. Louis County has granted to James D. Houseman a franchise to construct an electric railway from Jefferson Barracks to Spanish Lake. It will also extend through Manchester, Webster Groves, Clayton, University City, Wellston, Ferguson, Florissant and several other towns. The franchise provides for branch lines to Fenton and other towns. [E. R. J., Aug. 14, '09.]

Clovis, N. M.—The City Council has granted a franchise to E. J. Howard, J. D. Hammett and A. R. Hammett, Moberly, Mo., to construct an electric railway system in Clovis. The franchise provides that work shall commence before Jan. 1, 1910. [E. R. J., July 17, '09.]

Forest Grove, Ore.—The United Railways, Portland, has been granted a 25-year franchise by the City Council to extend its railway into Forest Grove. [E. R. J., Aug. 28, '09.]

Gettysburg, Pa.—The Hanover & McSherrystown Street Railway, Hanover, has petitioned the Town Council of Gettysburg for a franchise to enter the borough with a line which is to be built from McSherrystown, thus affording railway communication between York and Gettysburg. The Council has appointed a special committee to consider the proposal.

Logan Utah.—The City Council has granted to David Eccles, president of the Ogden (Utah) Rapid Transit Company, a franchise to extend the street railway from the Logan depot to the Agricultural College, a distance of 3 miles.

Menomonee Falls, Wis.—The Milwaukee Electric Railway & Light Company has applied to the Board of Trustees for a franchise to extend its electric railway through Menomonee Falls. The company proposes to build an extension from Milwaukee to Beaver Falls.

TRACK AND ROADWAY

***Phoenix, Ariz.**—It is stated that H. P. DeMund, W. D. Fulwiler and Elliot Evans are interested in a plan to build an electric belt line to connect with the end of the new extension of the Indian School line of the Phoenix Railway, and then, by a loop of 12 miles, to end at Six Points and connect with the Grand Avenue line.

Oakland & Antioch Railway, Oakland, Cal.—At a meeting of the directors of this company recently held in San Francisco, it was voted to authorize a bonded indebtedness to raise funds with which to construct an electric railroad from Oakland to Antioch by way of Walnut Creek, Concord and Bay Point. Surveys for the line, which will be 47 miles in length, were reported complete and final locations made. A. W. Maltby is interested. [E. R. J., Aug. 21, '09.]

Northwestern Street Railway, San Bernardino, Cal.—Fred Durham, president of this company, writes that preparations are being made for beginning work on this new street railway within two months. It will be about 2¼ miles long and will connect Rialto and San Bernardino. Three cars will be operated at first. Headquarters, 316 Katz Building, San Bernardino. Capital stock, authorized, \$130,000; issued, \$50,000. Bonds have been authorized to the amount of \$45,000. Officers: Fred Durham, San Bernardino, president; Morris Katz, San Bernardino, vice-president; C. W. Durham, Redlands, secretary; W. S. Boggs, San Bernardino, treasurer; E. G. Durham, Redlands, general manager; C. J. Clarke, West Highlands, superintendent. [E. R. J., Aug. 28, '09.]

Peninsular Railway, San Jose, Cal.—It is stated that this company will begin at once the construction of an electric railway from San Jose north to Stanford University, a distance of 17 miles.

Santa Rosa & Clear Lake Railroad, Santa Rosa, Cal.—Rights-of-way for this electric railway from Santa Rosa to Clear Lake are now being secured. The railway will have a scenic route and will be operated by gasoline motor cars. [E. R. J., March 13, '09.]

Sonoma & Lake County Railroad, Santa Rosa, Cal.—It is stated that this company has secured the right-of-way through Alexander Valley and on the Preston for its proposed electric railway which is to extend from Santa Rosa to Lakeport. J. E. Fulton, Lakeport, general manager. [E. R. J., July 31, '09.]

People's Railway, Wilmington, Del.—This company has begun the construction of the proposed new line to Marshallton. The connection with the company's present system will be just outside Brandywine Springs Park, at the Cedars, where the Kennett Square road formerly entered. The length of the new line will be about half a mile.

***Boise, Idaho.**—James Adams, a capitalist of Boston, Mass., is said to be the chief promoter of an enterprise for the building of an electric railway from the business center of Boise across the Eighth Street bridge and running out on the bench for several miles and then in a westerly direction to Kuna.

De-Kalb Midland Railway, Chicago, Ill.—An engineering corps in charge of R. H. Baldwin and O. F. Cole has begun making the final surveys for the new railway which is to connect De Kalb and Sandwich. Work was started at Sandwich and will be carried on north to De Kalb. It will be 28 miles in length. [E. R. J., July 10, '09.]

Oil Belt Traction Company, Oblong, Ill.—This company has increased its capital stock from \$100,000 to \$500,000. This proposed railway will start at Charleston, and, passing through Casey, Bellaire, Oblong, Hardinville and Bridgeport, have its southern terminal at Mt. Carmel. The roadbed is now ready for rails between Oblong and Bridgeport. N. L. Upson, manager. [E. R. J., July 31, '09.]

Indiana Union Traction Company, Anderson, Ind.—This company has awarded contracts to the Central States Bridge Company, Indianapolis, for the erection of a bridge at Anderson, and to the Indiana Bridge Company, Muncie, for the construction of a bridge at Yorktown.

Vincennes, West Baden & Louisville Traction Company, Vincennes, Ind.—It is stated that surveys are now being made, under the direction of Jerome Johnson, for the proposed electric railway to be built between Jasper, Petersburg and Vincennes, 48 miles. The Vincennes, West Baden & Louisville Traction Company has been voted \$50,000 in subsidies and has been granted a permit by Congress to build a bridge across the White River, 1 mile north of Petersburg. [E. R. J., May 22, '09.]

Centerville Light & Traction Company, Centerville, Ia.—This company is said to have awarded the contract for the grading of a 7-mile extension from Centerville to Mystic to Barton J. Sweatt, Boone; for the overhead material to the Westinghouse Electric & Manufacturing Company,

Pittsburgh, Pa., and the Ohio Brass Company, Mansfield, Ohio; the wire to the American Steel & Wire Company, Chicago, Ill., and the Wasco Supply Company, St. Louis, Mo. Kaye & Carter, Minneapolis, Minn., and Lee Lord & Company, Peoria, Ill., will supply 18,000 ties and 400 poles.

Tri-City Railway, Davenport, Ia.—J. F. Porter advises that this company expects to complete 8 miles of track during the next two months.

Davenport & Manchester Interurban Railway, Davenport, Ia.—At a meeting of the directors of this company in Davenport on Aug. 26, arrangements were made to call a meeting of the stockholders on Oct. 5 to reorganize the company. The present organization was merely temporary. It is stated that the capital stock will be increased to between \$500,000 and \$600,000 and that it will take approximately \$2,000,000 to construct the road. The proposed railway will be 91 miles long, but 27 miles of it will be constructed first, between Manchester and Monticello. After this has been constructed the remainder of the proposed line will be built from Monticello to Stanwood, through Olin and Tipton and finally to Davenport. It is probable that gasoline motor cars will be operated. F. W. Rank, Moline, Ill, secretary. [E. R. J., June 19, '09.]

***Glasgow, Ky.**—It is stated that Charles Vandenberg, representing Eastern capitalists, is at work securing the necessary franchises and right-of-way for an electric railway to connect Glasgow and Horse Cave, a distance of 18 miles.

Winchester, Ky.—Beverly R. Jouett, Winchester, confirms the report that he is interested in the proposed electric railway which is to extend from Winchester through Middletown to Sharpsburg, a distance of about 28 miles. Mr. Jouett states that the people living along this route expect to donate the right-of-way and a bonus of from \$75,000 to \$100,000 to secure the railway. The promoters are now at work on the right-of-way and bonus, and until these have all been signed up, nothing will be done. [E. R. J., Aug. 28, '09.]

Peninsula Traction Company, Cambridge, Md.—J. H. Burgess, Cambridge, is quoted as saying that negotiations have been made with New York capitalists to finance the Peninsula Traction Company to the extent of \$1,500,000. The proposed railway will extend from Claiborne to Ocean City, about 85 miles, and from Cambridge to Seaford, Del. The terminus will be either Queenstown or Rock Hall. From the terminus the company proposes to operate a steamboat line. [E. R. J., May 1, '09.]

Detroit, Lansing & Grand Rapids Railway, Detroit, Mich.—This company has filed a mortgage to the Union Trust Company, Detroit, as trustee, to secure an issue of \$5,000,000 of 5 per cent, 30-year bonds. The company proposes to build an electric railway from Detroit to Grand Rapids via Lansing, 135 miles. Grading has been started. Office, 706 Union Trust Building, Detroit. [E. R. J., Aug. 28, '09.]

Michigan & Chicago Westbound Railway, Kalamazoo, Mich.—This company has filed for record at Kalamazoo a \$3,000,000 mortgage in favor of the Chicago Title & Trust Company. The proceeds are to be used in building an electric railway between Kalamazoo and Grand Rapids. Alfred H. Brown is said to be interested in this project. [E. R. J., Aug. 7, '09.]

North Missouri Central Railway, Mexico, Mo.—W. D. Ball is reported to have begun work on the final survey of the North Missouri Central Railway, projected from Mexico to Columbia, and from Columbia to Jefferson City, via Ashland. The line will be surveyed between Columbia and Ashland first. The total length of the proposed line will be 63 miles. O. F. Spaete, St. Louis, president. [E. R. J., July 31, '09.]

Springfield (Mo.) Traction Company.—This company advises that it has recently purchased material to be used in the construction of 5 miles of new track.

Pulaski, N. Y.—E. D. Bennett, Pulaski, confirms the report that he is interested in the projected electric railway between Sidney and Treadwell, and states that the matter, is as yet, only in a preliminary stage. The line, as projected, will be about 21 miles long. Application was recently made to the Sidney Board of Trustees for an electric railway franchise. [E. R. J., Aug. 21, '09.]

Geneva & Auburn Railway, Seneca Falls, N. Y.—It is stated that this company is planning to build an extension to Cayuga Lake, at a cost of \$50,000.

Enid & Central Oklahoma Traction Company, Enid, Okla.—This company advises that it contemplates starting construction on its proposed railway by Oct. 1. It will extend from Enid to El Reno, 65 miles. The company also expects to furnish power for lighting to towns along the route.

Headquarters, Chamber of Commerce Building, Enid. Capital stock, \$1,000. Officers: W. S. Whittinghill, president; M. T. McMahon, vice-president; R. W. Whittinghill, secretary; C. E. Burkhardt, treasurer, all of Enid. [E. R. J., Aug. 14, '09.]

Municipal Traction Company, Cleveland, Ohio.—This company is planning to lay the tracks on Prospect Avenue with new rails and the work will be started during this month. Rails have been ordered and the improvement will cost about \$50,000. Considerable work is also being done in East Cleveland in the way of relaying track.

Rainy River Radial Railway, Ottawa, Ont.—Notice is given of the intention of this company to apply to Parliament for a charter to build a railway from the international boundary to Fort Francis to the Lake of the Woods at the mouth of Big Grassie River with branches to Long Sault Rapids.

Baker Interurban Railway, Baker City, Ore.—This company announces that it is making surveys and preparing plans for the new railway to be built from Haines to North Powder and Rock Creek. About 58 miles have already been surveyed. It is the intention to start work within a few weeks. The motive power will be either electricity or gasoline. It is proposed to erect repair shops at Baker City. Capital stock, \$50,000. Officers: T. B. Neuhausen, Portland, president; A. K. Bentley, Portland, secretary and general manager; Anthony Mohr, Baker City, treasurer and purchasing agent; A. E. Hammond, Portland, chief engineer. [E. R. J., Aug. 21, '08.]

Ephrata & Lebanon Street Railway, Lebanon, Pa.—It is announced that this company has secured all right-of-way for its proposed electric railway from Ephrata to Lebanon, a distance of 22 miles. The plan is to operate gasoline motor cars. The company will apply for a charter within a few days. S. D. Erb, Ephrata, president, and F. H. Shaw, Lancaster, consulting engineer. [E. R. J., March 6, '09.]

Duquesne & Dravosburg Street Railway, Pittsburgh, Pa.—This company has decided to increase the capital stock from \$18,000 to \$100,000, and begin construction on its proposed 3-mile railway at once. [E. R. J., July 31, '09.]

***Chicago & Wisconsin Valley Railway, Madison, Wis.**—Capitalists of Madison are said to be planning a new interurban railway along the Wisconsin River to be known as the Chicago & Wisconsin Valley Railway, to connect Madison and Wausau, via Portage, Lodi, Stevens Point and Grand Rapids. Engineers will begin work soon on a probable route.

SHOPS AND BUILDINGS

Oakland (Cal.) Traction Company.—It is stated that this company is preparing to remodel its car house and enlarge the yards on the Haywood division of its electric railway at Elmhurst.

Illinois Traction System, Peoria, Ill.—This company is building a large addition to its shops at Decatur, consisting of a large wood mill, a blacksmith shop and foundry and an oil house.

Tri-City Railway, Davenport, Ia.—This company has under way the construction of a new storage shed with a capacity for 50 cars.

Union Street Railway, New Bedford, Mass.—It is stated that this company contemplates the erection of an addition to its Weld Street car house.

Conestoga Traction Company, Lancaster, Pa.—This company is building a car house, about ½ mile east of Parkersburg with a capacity of 10 cars. The company is also building a substation and a waiting room. These buildings are located on the Lancaster and Coatesville division of this railway.

POWER HOUSES AND SUBSTATIONS

Fort Dodge, Des Moines & Southern Railroad, Fort Dodge, Ia.—This company is installing additional equipment in its powerhouse at Fraser, at an estimated cost of \$20,000. Among the equipment being installed is a 600-hp boiler, with automatic stokers.

Conway (Mass.) Electric Street Railway.—This company, which is controlled by the Boston & Maine Railroad, is reconstructing the dam on South River near Conway Junction. The power generated from this will be used both for operating the railway and for electric lighting. The dam will store 120,000,000 gal., and will be 125 ft. high.

Salt Lake & Ogden Railway, Salt Lake City, Utah.—This company has completed plans for a new power plant to be built at Farmington, which will supply all of the power needed for the regular operation of its trains between Salt Lake City and Ogden. The power plant at Lagoon, which is being erected, is expected to be in operation by Nov. 1. H. A. Strauss, consulting engineer.

Manufactures & Supplies

ROLLING STOCK

Visalia Electric Railroad, Exeter, Cal., is in the market for two 57-ft. 3-in. motor cars.

Illinois Tunnel Company, Chicago, Ill., will purchase 50 electric locomotives, it is reported.

Union Railway, New York, N. Y., suffered a loss of 38 closed cars and four sweepers recently in a fire.

Jacksonville (Ill.) Railway & Light Company is having two cars built at the shops of the Danville Car Company.

Bluffton, Geneva & Celina Traction Company, Bluffton, Ind., is considering the purchase of some gasoline motor cars.

Dayton, Covington & Piqua Traction Company, Dayton, Ohio, expects to buy some trail cars for freight and express service.

Oklahoma Railway, Oklahoma City, Okla., contemplates buying eight combination passenger, baggage, express and smoking cars.

Rochester (N. Y.) Railway has placed an order for 25 pay-as-you-enter cars with the G. C. Kuhlman Car Company, it is reported.

El Paso & Fort Hancock Railway, El Paso, Tex., contemplates purchasing some rolling stock but has not definitely decided on the type of car.

Chicago (Ill.) City Railway is preparing specifications for 50 pay-as-you-enter cars which will probably follow closely the design of those purchased in 1907.

Gallatin Valley Electric Railway, Bozeman, Mont., has purchased one Baldwin electric locomotive, as mentioned in the ELECTRIC RAILWAY JOURNAL of May 8, 1909.

Connecticut Company, New Haven, Conn., is in the market for 20 double-truck trail cars at present, and contemplates, it is reported, ordering a larger number later.

Gary & Interurban Railway, Gary, Ind., has placed an order for four 4-motor cars with the McGuire-Cummings Manufacturing Company, Chicago. These cars are to be duplicates of the cars ordered by the company in 1908.

Rockford & Interurban Railway, Rockford, Ill., has ordered four pay-as-you-enter cars from the American Car Company. Mention of this contemplated purchase was made in a previous issue of the ELECTRIC RAILWAY JOURNAL.

Chicago & Oak Park Elevated Railroad has placed an order with the McGuire-Cummings Manufacturing Company for the trucks to be used under the 20 cars, details of which were given in the ELECTRIC RAILWAY JOURNAL of Aug. 21, 1909.

Illinois Traction System, Champaign, Ill., is having a private observation trailer built at the Danville Car Company's shops and is considering the addition of some combination mail and express cars, 56 ft. in length. Last June the company received eight 53-ft. standard trail cars from the Danville Car Company.

Pittsburgh (Pa.) Railways has drawn up the following specifications on the double-truck pay-as-you-enter cars ordered from the St. Louis Car Company, as mentioned in the ELECTRIC RAILWAY JOURNAL of Aug. 7, 1909:

Seating capacity	56	Interior trim	cherry
Weight	16,000 lb.	Underframe	composite
Bolster centers, length..	21 ft. 6 in.	Couplers ..	Van Dorn No. 27
Length of body.....	33 ft.	Curtain fix....	Curtain S. Co.
Length over vest..	45 ft. 8 in.	Gongs	St. Louis Car Co.
Width over sills..	8 ft. 1 1/2 in.	Hand brakes	Peacock
Width over posts at belt,	8 ft. 1 1/2 in.	Headlights	Kirby-Neal
Sill to trolley base..	8 ft. 6 in.	Sanders	Robinson
Body.....	wood, steel sides	Seats	St. Louis
The 30 pay-as-you-enter cars		Trucks	Brill
Company are practically the		Ventilators	Perry
			ordered from The J. G. Brill
			same as above cars.

Lawrence Railway & Light Company, Lawrence, Kan., has specified the following details for the seven 21-ft. single-truck cars, reported in the ELECTRIC RAILWAY JOURNAL of July 31, 1909, as being ordered from the St. Louis Car Company:

Seating capacity	32	Curtain fix....	Curtain S. Co.
Length of body.....	21 ft.	Curtain material	Crown
Length over vestibule..	31 ft.	Fenders	Eclipse
Width over sills..	8 ft. 1 1/8 in.	Heaters	Consolidated
Width over posts at belt..	8 ft. 2 in.	Headlights	Dayton
		Motors.....	2; Bullock Yoke

Height top rail to sills..	Suspension.		
2 ft. 7 1/2 in.	Seats.....	St. Louis reversible	
Body	wood	Seating material ..	Pantasote
Interior trim.....	mahogany	Step treads	Mason
Underframe	wood	Trucks	Brill, 21-E
Couplers	Tomlinson		

TRADE NOTES

Consolidated Car Heating Company, New York, N. Y., has received an order from the Buffalo, Lockport & Rochester Railway for electric heaters on six cars.

Western Electric Company, New York, N. Y., announces that it is prepared to furnish Sunbeam tungsten lamps in voltages between 200 and 250. The lamps are made in four sizes, rated at 45, 70, 112 and 180 watts. They are of the well known Sunbeam quality, and have given up to date equally as good satisfaction as tungsten lamps for 110 volts.

American Ship Windlass Company, Providence, R. I., has received an order from the Philadelphia Electric Company for 14 Taylor underfeed stokers to equip all of the boilers in its Christian Street plant. These stokers are of the 7-retort type and are duplicates of two equipments which were put in service at this plant nine months ago for test.

Harrisburg Foundry & Machine Works, Harrisburg, Pa., through A. M. Morse, Chicago district manager, reports among recent sales of Fleming-Harrisburg engines for direct-connected electric generating sets, the following: Lake Shore & Michigan Southern Railroad, Toledo, Ohio; Lehigh Valley Railroad, Bound Brook, N. J.; Delaware, Lackawanna & Western Railroad, Buffalo, N. Y.

Westinghouse Electric & Manufacturing Company, Pittsburgh, Pa., reports that its business in August reached an amount equal to that of July, which was \$3,000,000, the largest in two years. The recent order from the Chicago Railways Company for 1400 street-railway motors has just been supplemented by an additional order for 200 motors of the same type. The Pittsburgh Railways Company has also placed an order for 240 100-hp motors, in addition to other railway machinery. The Maryland Electric Railway Company will extend its single-phase equipment at Baltimore, and has also entered an order for additional powerhouse apparatus.

Wonham, Magor & Sanger, New York, N. Y., have recently made very large sales of the "H-B" life guard on the strength of the excellent showing which this safety device made in the Public Service Commission's tests of fenders and wheel guards at Schenectady last year. The Metropolitan Street Railway, New York, during the last six months have ordered 1200 guards, and more than 3000 guards have been sold to other street railways in Greater New York, including the Third Avenue Railroad; Union Railway; Richmond Light & Railroad Company; Westchester Electric Railroad Company; Tarrytown, White Plains & Mamaroneck Railway, and the New York City Interborough Railway. Orders have also been received from street railway companies in Chicago, Boston, Savannah, Montreal, Vancouver, B. C., and Edmonton.

ADVERTISING LITERATURE

Western Electric Company, Chicago, Ill., has issued Bulletin 8A, in which are described and illustrated the company's Sunbeam incandescent lamps.

J. G. Brill Company, Philadelphia, Pa., has issued a handsomely illustrated catalog of several types of electric railway snow plows and sweepers which it makes.

Coleman Fare Box Company, Buffalo, N. Y., has issued a folder illustrating its fare box and giving 12 reasons why the box should be installed for pay-as-you-enter service on any type of car.

Forsyth Steel Tie Company, Pittsburgh, Pa., has issued a pamphlet in which its steel and concrete cross ties, railway forgings and other products are illustrated and described. All the illustrations are printed from line engravings which have been especially prepared to bring out the details of the various devices.

Buffalo Foundry & Machine Company, Buffalo, N. Y., has issued a publication devoted to its products in general and illustrating the facilities of its plant and a publication devoted exclusively to its vacuum drying apparatus. Both contain excellent half-tone engravings and considerable information about the company, its facilities and methods of operation. The circulars are introduced with a check on the Economy Savings Bank made payable to the company to which the circulars are addressed for "thrown away dollars." The covers are made to represent a pass-book issued by the Prosperity Trust Company, Buffalo, N. Y., in account with the company to which the circulars are addressed.